Roots and Shoots: Assisting young people to envision and act upon sustainable futures

A thesis submitted in partial fulfilment of the requirements for the degree
of
Master of Teaching

(EDUC 7557)

Victoria Kinsey-West
Student ID:
BSc

The University of Adelaide

Due: 7th June 2019
Submitted: 6th June 2019
Word Count: 18,393

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

Abstract

Short-term thinking is a dominant Western worldview and is reflected in many educational practices, many of which concentrate on the assessment of certain kinds of knowledges. Despite the assumption that education prepares students for their future, it often lacks a long-term vision of what that future may be. Furthermore, conventional education has overlooked fundamental questions of sustainability facing future generations. The future cannot be predicted with certainty; however, it can be said that the current and looming ecological crises will predicate a troubling uncertain future for all human and non-human beings.

In recognising that the conventional education system has not made a great deal of contribution to sustainability, this study examines an alternative youth education program that is used within, and alongside, conventional curricular programs. Roots and Shoots (R&S) is an environmental and humanitarian youth education program of the Jane Goodall Institute, which is present in almost 100 countries worldwide. The program encourages young people to take action to make the world a better place for animals, people and the environment, underpinned by the value of holistic compassion. However, due to its philosophical and global approach, it can be dismissed as lacking structure and value. This is unfortunate since its flexible structure enables it to be adapted across the globe in different social and cultural contexts, and it offers a means to enable youth to envision and act upon a sustainable future. However, traditional approaches to education often require numerically measurable outcomes, which can perpetuate short-term visions. The R&S aim to develop compassionate youth is problematic in this sense. With this in mind, this study sought to identify a foundational theoretical approach that may assist the program's development and future direction. The link between young people's abilities to envision alternative, sustainable futures and their agency to act upon creating them can be connected using futures studies. However, futures studies lacks a precise analytical tool. This study has adapted futures theories and methods to develop a tool, consisting of four core concepts. These I argue have the capacity to orient a futures perspective for youth. Due to the limited scope of this study the R&S Formula Toolkit was chosen to orient the development of a futures perspective for the program.

The R&S program enables members to envision a positive long-term future with a narrative where youth act as compassionate leaders, and make decisions based on holistic compassion. When demonstrated equally towards animals, people and the environment, holistic compassion exemplifies an interrelational and integral approach, which is required for sustainable futures for all. R&S encourages agency and action through engaging youth in local projects that provide relevance to their lives and have an impact. Youth feel more optimistic about global futures when their local projects are viewed under the global umbrella of R&S, and the narrative of young people bringing about change across the globe. I argue that it is this narrative, rather than the actions undertaken as part of R&S, that enables youth to envision and act upon sustainable futures.

Acknowledgments

I would like to express my gratitude towards my thesis supervisor, Dr Julie Matthews of the School of Education, University of Adelaide. Dr Matthews has widened my worldview, encouraging and instilling confidence in me to address some of the 'bigger picture' rather than focussing on more comfortable and discrete options. Thank you for all of the time, support, guidance and inspiration you have provided.

I would also like to thank my wonderful parents, Chris and Di, without whom I would not have been able to do this. Their support throughout this Masters, including many extra hours of babysitting, has been incredible. My thanks also go to my daughter, Bella, who has provided much needed laughter, cuddles and play time during study breaks. I would also like to thank Eliza, a wonderful study partner and walking thesaurus of 'posh' words to substitute for my colloquialisms.

Finally, I would like to thank the Mason family, who's scholarship for the Communication of Science has provided financial support for me to complete this degree.

Table of Contents

List of Abbreviations

R&S: Roots and Shoots
JGI: Jane Goodall Institute
FE: Futures Education
FS: Futures Studies
EfS: Education for Sustainability
PYD: Positive Youth Development
SL: Service Learning
PBL: Place Based Learning
PBOL: Place Based Outdoor Learning
CLA: Causal Layered Analysis

List of Tables

List of Figures

Chapter 1: Introduction

> *As I ride my bicycle home in rush hour and the hordes of cars rush by with their windows up and their radios on, I realise the importance of this time for me to observe, think and reflect. Today I observe the pre-election campaign posters, hanging from every street-light. The mottos 'Vote 1 for a brighter future' and 'Vote for a sustainable future for all' make me ponder what this 'brighter' or 'sustainable' future is? Who, or what, are the 'all' mentioned?*

Although the word 'future', is commonly used, little depth or substance is given as to what it may mean, or the timescale it refers to. The future can be both long- and short-term, however in common discourse it is only the latter that critical attention is paid towards. The more immediate pressures of the present push away a long-term vision. During my ride the devastating ecological impacts of human activity were blatant. The busy freeway to the right carving its way up through the natural rockface, and to the left a strip of native bushland, littered with fast food wrappers. Although the exact future cannot be predicted with certainty, if the current trends of biodiversity loss and climate change continue, the future will most definitely be unsustainable for all- people, animals, and our shared home, planet Earth.

Conventional education, often described as a means to prepare students for their future, lacks a long-term vision, particularly with regard to sustainability (Bateman, 2015). It is reflective of the neoliberal policies driving the Western worldview towards an: 'unfettered technocentric and business-as-usual future based on free market economics, constant consumerism and narcissistic capitalism'(Hicks, 2012, p. 12). Educational policies are driven by the short-term views of governments concerned with winning the next election, and discrete disciplines prevent students adopting a wider, more integrated worldview focused on collective rather than individual values (Bateman, 2015; Gidley, 2016). A focus on the assessment of measurable knowledge often edges out ecological and emotional literacy (Corcoran, Weakland, & Wals, 2017). Despite Freire's concerns over the banking system of education almost fifty years ago, a school campus today would be one of the few aspects of contemporary societies recognised by a time traveller from the nineteenth century (Freire, 1972; Jackson, Burchsted, & Itzkan, 2002). I argue that it is necessary to look at different ways of preparing youth for a more sustainable future, through alternative youth programs. If these programs offer a space for youth to create a vision of the future they want, they can empower agency in youth to act in ways that create their future vision. By holding positive visions, as opposed to dystopian or high-tech visions of the future presented in many cultural texts, youth will have something to work towards. This is necessary now more than ever, given the increasing pessimism observed in youth with regard to their global futures (Hicks & Holden, 2007).

Roots and Shoots (R&S) is a global youth program, started by Jane Goodall in 1990 to address the apathy and hopelessness she observed in youth (The Jane Goodall Institute, 2018b). R&S groups in schools and communities in nearly 100 countries take action to make the world a better place for animals, people and the environment, by developing holistic compassion towards them. The research literature reviewed in this study recognises that the flexible

model of the R&S, an aspect that has been critiqued, holds value because it recognises the integrated and relational aspects required for sustainability, and allows youth in different cultural and ecological contexts to design and implement local action. However, placing a conventional, numerical measure on the program's impact is problematic, given that it intends to develop a value: compassion. Nevertheless, I argue that holistic compassion must be the foundation of sustainable actions being taken by young people towards animals, people and the environment. To this end, this study identifies a theoretical foundation to assist R&S to develop compassionate identities in young people, and empower them to take action to create their preferred future.

Futures studies recognises that there are multiple futures – those that are plausible, probable and preferable - and provides methods and tools to act on creating the preferred future envisioned (Wals, Weakland, & Blaze Corcoran, 2017). However, futures studies literature is mainly located in an academic realm, with little action-oriented methods or tools, relevant for young people. It was therefore necessary to adapt the futures approaches used with organisations and institutions to produce a framework of core concepts, suitable for youth. These were then used to orient a futures perspective for the R&S Formula Toolkit (The Jane Goodall Institute, 2017b). The aim of the study was to advance R&S by showing how a futures orientation could assist youth in envisioning a preferred future, and empower their agency to address local and global issues that work towards a sustainable future. This study is therefore unique, innovative and demonstrates the worth of investigating non-conventional numerical measures to support other educational programs constrained by short-term discrete outcomes. It can also be argued that it is these very measures that are driving the 'ruthless materialism, consumerism, scientism and the technologically and profit-driven control of nature and humanity' that underpin the ecological and social crises facing our future generations (C. Smith, 2010, p. 154).

Outline of subsequent chapters

The first chapter describes the background and evolution of R&S, to provide an overview of how the program operates within its global context. The second chapter summarises the limited published literature relating to R&S. The literature relating to compassion development and compassionate leadership is also examined. The third chapter introduces the futures perspective, providing a summary of the emergence of futures studies as a field, and its limited incorporation into educational practices. In the fourth chapter, the concepts, methods and tools used by Inayatullah, a prominent futurist working predominantly in organisational settings, are summarised (Inayatullah, 2008, 2013b). From this, a tool of four core concepts are adapted for use in youth educational settings. The fifth chapter uses this tool to orient a futures perspective within the R&S Formula Toolkit.

Key terms

Futures Studies
Roots & Shoots
Compassion
Compassionate Leadership
Youth Development
Youth Agency
Sustainability
Sustainable futures
Education for Sustainability

Chapter 2: Roots and Shoots - The History, Program and Current Practices

The Jane Goodall Institute and Roots and Shoots

Roots & Shoots' (R&S) is an environmental and humanitarian youth program founded by Dr Jane Goodall, in response to her belief that "the only hope for mankind lies with our young people" (The Jane Goodall Institute Australia, 2019b). Goodall rose to fame following her path-breaking research in 1960 questioning the definition of 'Man the Toolmaker' after observing chimpanzees constructing tools to feed on termites in Gombe Stream National Park, Tanzania (Goodall, 1998). She not only questioned science's differentiation between humans and other animals, but questioned the scientific approach by naming the chimpanzees she was studying rather than giving them numbers (Goodall, 2000). As a young attractive woman, choosing to live amongst the chimpanzees caught the media fascination and saw several documentaries and appearances in National Geographic magazine that led to Goodall having a strong influence in the conservation and scientific community (Goodall & Berman, 1999; Goodall & van Lawick, 1963). The Jane Goodall Institute (JGI) was founded in 1977 to support further research into chimpanzees and the preservation of their habitat (The Jane Goodall Institute, 2019d). JGI pioneered conservation programs that critically included people with grassroots, community-focused initiatives that drove local action to bring about sustainable long-term change (The Jane Goodall Institute, 2019d). In 1991, Goodall gathered a group of 12 Tanzanian secondary school students to discuss what issues their environment and community faced, after meeting many young people harbouring sadness and anger that their futures were being taken from them by the actions of previous generations. She encouraged them to think about what local action they could take, finding that they were encouraged through feeling a sense of community within themselves and that their small actions could therefore lead to bigger change. These 12 students went on to establish the first R&S clubs in each of their schools (Goodall & Berman, 1999; The Jane Goodall Institute Australia, 2019b).

Since that time, Goodall spends 300 days each year travelling to spread the message of R&S across the globe, with the program now established in nearly 100 countries (Jane Goodall Institute US Australia, 2019). It is estimated that there are more than 700,000 youth participants worldwide, although it is not altogether clear how the activity of these participants is monitored and evaluated (The Jane Goodall Institute, 2017a). Reporting, including online membership, is generally only available for Western countries although the program is active in many non-Western countries including the Republic of Congo, Colombia, Chile, Indonesia, Malaysia, Tanzania and Uganda (The Jane Goodall Institute, 2017a). The Jane Goodall Institute chapters in the US, Australia, UK, New Zealand and Canada divide their work into two parts; their Africa programs (supporting chimpanzee conservation through sanctuaries, protected areas and community-centred conservation programs) and the local R&S program (The Jane Goodall Institute Australia, 2019a).

The Roots and Shoots Program

Mission, Vision and Goals

The R&S program mission is to 'foster respect and compassion for all living things, to promote understanding of all cultures and beliefs, and to inspire each individual to take action to make the world a better place for people, other animals, and the environment.' Their vision is to 'empower young people…to become the type of leaders who will make right choices to build a better world.' This is realised through the following goals:

1. To implement positive change through active learning about, caring for and interacting with the environment.
2. To demonstrate care and concern for all animals.
3. Enhance understanding among individuals of different cultures, ethnic groups, religions, socio-economic levels and nations through our global communications network.
4. Help young people develop self-respect, confidence in themselves and hope for the future.

(The Jane Goodall Institute Australia, 2019b)

Recognised as a youth development program (Drescher, 2011; Johnson et al., 2012). R&S stands apart from other youth conservation, community development or environmental leadership programs due to the holistic nature of compassion it aims to develop, along with the global network that participants become a part of (The Jane Goodall Institute, 2017a).

The Who: Participants

The R&S program is targeted at youth 'of all ages' (The Jane Goodall Institute, n.d). According to Gidley and Inayatullah (2002), youth are demographically defined as 'humans between the ages of fifteen and twenty-five', however R&S claims to have 'youth' from age three to ninety (The Jane Goodall Institute, n.d). With JGI chapters in 30 countries, The Jane Goodall Institute Global (JGIG) was established in 2013, with the aim of bringing together the different chapters for more 'cohesive, efficient and effective community conservation across the world' (The Jane Goodall Institute Global, 2018). However, a simple review of existing R&S websites, which exist primarily for only the Western-based country offices such as the United Kingdom, Australia, New Zealand, U.S. and Canada, will find the offices significantly differ in their approaches to describing the program. For example, where the US website encourages individuals, families, community groups and classrooms to join, the UK website primarily provides activities and resources for educators to use in a school context (The Jane Goodall Institute, 2006; The Jane Goodall Institute UK, 2019). Groups exist in universities and tertiary institutions in several countries, as well as those outside of an education setting, including prisons and refugee camps. R&S 'groups' can range in size from individual members to entire schools (Johnson, Johnson-Pynn, & Pynn, 2007; The Jane Goodall Institute Australia, 2019b; The Jane Goodall Institute Tanzania, 2013a).

The What: R&S Model

The R&S program was developed on the reciprocal, mutually influential model shown in Figure 1 (Johnson & Johnson-Pynn, 2007; The Jane Goodall Institute, 2008). Members develop knowledge of their local community issues, which forms the basis of responsible action. Compassion is identified as the 'engine' of the project, creating the desire in young people to address the problems they have identified. After learning and planning, participants are motivated to implement service projects that address issues within the human, animal and environmental community around them. While this methodology forms the basis of youth engagement with R&S, the program states that the global network reinforces their commitment, through participants' connection to a larger community of young people driving change in the world (The Jane Goodall Institute, 2008).

Figure 1: *The Roots and Shoots Model*
(The Jane Goodall Institute, 2008)

This study reviewed the websites of many R&S chapters, to locate the clearest account of how a R&S group functions (The Jane Goodall Institute Tanzania, 2013b). Interested participants are encouraged to seek support from school leadership, and find a Matron or Patron adult to oversee the club. Once members (school or university students) are recruited, members should elect officer positions such as Chairperson, Vice- Chairperson, Secretary or Treasurer and elect a regular day and time to meet. The instructions emphasise that the club should be entirely student run and the foundation of it should be developing and executing service projects that focus on the three thematic areas of animals, the environment and the community, with at least one project running at all times. This simple model has been expanded and adapted by many of the Western chapters, to result in complex and divergent approaches across the globe. One approach, adopted by JGI Australia, US and Canada, is the Four Step Formula, as detailed below. This formula is generally detailed in a toolkit provided to educators, which is developed by the different chapters.

The How: The Four Step Formula

The model consists of the following four steps: Get Engaged, Mapping, Take Action and Celebrate (The Jane Goodall Institute, 2017b). The Canadian office titles the second step *Understand*, inferring what the process of mapping is aiming to achieve (The Jane Goodall Institute of Canada, n.d.).

In the first step, educators are encouraged to use a short biography of Jane Goodall along with other stories of 'inspirational changemakers' to engage members. The brand of 'Jane Goodall' is used strongly throughout R&S material, with the US based institute referring to

the program as 'Jane Goodall's Roots and Shoots' (The Jane Goodall Institute, 2018b). While the familiarity of a well-respected conservationist may have been necessary to establish the program in its early stages, the sustainability of this may be questioned considering Goodall is now eighty-five. It could be possible that as an effort to counter this, the R&S Formula Toolkit (from the US office) also recommends sharing stories of Malala Yousafzai and Martin Luther King (The Jane Goodall Institute, 2017b). Although R&S aims for a collectivist approach with a community coming together to achieve change, this model promotes seeking inspiration from individuals. Throughout other online media, including the active social media accounts, details of projects that R&S groups are undertaking can be found that may offer similar inspiration.

The second step of the formula is *Mapping*, with detailed instructions to perform a local community needs assessment (The Jane Goodall Institute, 2017b). Although a circumference of a few kilometres is suggested, the area covered can be chosen by the group. The process of community mapping suggested invites students to categorise their community characteristics and assets as 'animal', 'environmental' or 'human' and reflect on the interconnected nature of these, including how they could be improved. In the R&S Formula Toolkit, the process of community mapping is broken down into four steps (The Jane Goodall Institute, 2017b):
1. Observing your community
2. Preparing your map
3. Marking community assets
4. Reflection

The purpose of community mapping is for members to identify possible 'campaigns', or 'service-projects' (these words are often used interchangeably) that can be undertaken to fulfil the third step of *Taking Action*. Four categories of action are offered by R&S Canada:
1. Educate: Inform the community of local sustainability issues.
2. Motivate: Inspire changes in consumer & lifestyle choices by offering sustainable alternatives.
3. Restore: Create, rehabilitate or maintain natural areas
4. Advocate: Take advocacy action to raise awareness about your cause
                                            (The Jane Goodall Institute of Canada, n.d.)

Alternatively, R&S UK divides this step into 3 streams; implementing community service projects, participating in special events and participating in international campaigns (The Jane Goodall Institute UK, n.d.). Community-service projects are at the core of R&S, across all global contexts. Participation in special events refers to days such as the International Day of Peace, with a common activity for groups being the construction of a large 'peace dove', flown at a parade or community event (The Jane Goodall Institute, 2018a). Other popular days in the R&S calendar include international 'days' for endangered animal species such as World Chimpanzee Day or World Elephant Day (The Jane Goodall Institute of Canada, n.d.). International campaigns refer to awareness raising exercises promoted across all Roots & Shoots groups and individuals. In Australia these include mobile phone recycling, education on the impact of palm oil, and a petition to ban single use plastics (The Jane Goodall Institute Australia, 2019c).

The final step of the model is *Celebrate*. Despite the title, the material regarding this step places greater emphasis on members reflecting on the project and their personal learning

(The Jane Goodall Institute, 2017b; The Jane Goodall Institute of Canada, n.d.). An aspect of this is for individuals to reflect on their personal traits as a compassionate leader (The Jane Goodall Institute, 2017b), see Appendix B. Although the term 'compassion' is commonly used across R&S material, the description of 'compassionate leadership traits' only appears on the US website, accompanied by an online professional development course for educators (The University of Colorado Boulder, 2017). As part of celebrating success, members can achieve recognition from the R&S community through winning 'Project of the Month' which rewards those groups that have gone 'above and beyond' (The Jane Goodall Institute, 2015). Although global in nature, this award appears to be managed through the US-office with only a limited number of countries outside of the US receiving this recognition. This brings to question whether access to technology or awareness of the scheme prevents groups in other countries from being recognised.

National Youth Leadership Council

In addition to R&S groups in schools and non-educational settings, there is a National Youth Leadership Council (NYLC) established in several countries including the US, Australia and Uganda (The Jane Goodall Institute, n.d.; The Jane Goodall Institute Australia, 2019d). The NYLC represents the R&S 'youth voice' in their respective countries. Members, generally of secondary school through to University age, are required to be part of online meetings up to twice per month (The Jane Goodall Institute, n.d.; The Jane Goodall Institute Australia, 2019d). While the council appears to involve a leadership program for members, it seems members are also crucial in creating resources for campaigns and managing the social media accounts for R&S. The NYLC in Australia and the US have annual physical gatherings and there has been an annual global R&S conference held in the UK for the previous five years, with representatives often being NYLC members in their respective countries (The Jane Goodall Institute, 2017a).

Funding

Funding for the R&S program is provided through the Jane Goodall Institute in each respective country. Although there are sponsorships from organisations such as the Disney Conservation Fund and the Myer Foundation, a substantial amount of funding is raised through Goodall's lectures and events as she tours (The Jane Goodall Institute, 2017a). To support the implementation of service projects, groups members in the US, Australia, Canada, UK and New Zealand are able to apply for 'mini-grants', in the region of AU$200-500, funded through JGI(The Jane Goodall Institute, 2018b). There does not appear to be funding available to R&S groups in non-Western countries, with online material emphasising that groups should ensure they either have, or can acquire, the resources required for their project independently (The Jane Goodall Institute Tanzania, 2013b). It should be noted that a significant amount of the R&S program is supported by volunteers (The Jane Goodall Institute Australia, 2018).

A Forward Vision for Roots and Shoots

Whilst striving to be inclusive of all ages and have a global nature, the program requires a flexible model of learning that ensures socio-cultural and environmental relevance. This enables the same program to be adapted for youth in a remote Ugandan village and primary school children in urban Australia (The Jane Goodall Institute Australia, 2019b). However, the lack of concrete design may impact its implementation in formal education settings in

Western countries, accustomed to structured curriculum and outcomes that allow little room for creativity. This very flexibility leads to a diverse program implementation across the Western-based offices, making the program seemingly appear complex. At its essence, JGI has created a program with the aim of developing compassionate global citizens through implementing local action, fitting with the motto of 'globally mindful, locally active' (The Jane Goodall Institute New Zealand, 2019). The mechanism for doing this will be explored in the following chapter reviewing existing R&S research literature.

Chapter 3: Roots and Shoots – The Research Literature

Despite its existence for almost three decades, relatively little literature has been published regarding the R&S program. This review identified ten published papers that included R&S members as research participants. Nine of these adopt a youth development perspective and one, a doctoral dissertation, adopted an education-based perspective. This chapter summarises the key findings of these studies and identifies the challenges associated with conducting research on the R&S program. Additionally, literature on compassion development in youth is summarised to provide a view as to how R&S fosters this value.

Roots and Shoots as a Youth Development Program

The majority of R&S research has been published by ecopsychology researchers, taking a youth development perspective to investigate how R&S may act as a vehicle to engage youth in civic participation (Johnson-Pynn & Johnson, 2013). PYD sees youth as a resource, rather than a problem to be fixed, an underlying narrative clarified by Inayatullah (2002). It focuses on a strengths-based youth development approach in the areas of the 'nature of the child', 'interaction between the child with their community' and 'moral growth' such that their full potential can be captured (Kia-Keating, Dowdy, Morgan, & Noam, 2011). PYD is increasingly recognised and incorporated into community programs to increase the resilience of young people towards behavioural and/or social problems (Kia-Keating et al., 2011; Rhee, Furlong, Turner, & Harari, 2001).

Although several different frameworks for youth development have been proposed, the R&S PYD publications predominantly refer to Lerner's "5Cs" model, the most established and empirically researched model at present (Arnold & Silliman, 2017). This model has five constructs: competence, confidence, connection, character and compassion (Zarrett & Lerner, 2008). When youth develop in these five constructs the outcome will be a 6th "C"- a greater 'contribution/civic participation' (see Appendix A: Bowers et al., 2010). Some authors suggest the constructs are both predictors and outcomes of civic participation, reflective of the two-way nature of many relational models (Richard M Lerner, Lerner, Bowers, & Geldhof, 2015).

Program Outcomes

Despite the presence of R&S in more than 35 countries, research on the program focuses on Tanzanian, Chinese and US participants. One study was conducted during the 2008 Global Youth Forum, a 1 week conference attended by R&S members from 28 countries (Johnson, Johnson-Pynn, Sweeney, & Williams, 2009). The literature indicates that participation in R&S results in improved social and cognitive competence, development in member's affective domain, and increased care and concern for themselves, others and the environment (Johnson & Johnson-Pynn, 2007; Johnson, Johnson-Pynn, Sweeney, & Williams, 2009; Johnson et al., 2012; Johnson-Pynn & Johnson, 2005). This is reflected in the medium-large program impacts described in a preliminary report from China and Tanzania, identifying the following four areas of positive impact: self-efficacy, cognitive competencies, social competencies, and an increased engagement and commitment to social and environmental justice (Johnson et al., 2007). Each of these are discussed in more detail below.

Self-Efficacy

Self-efficacy is the belief an individual holds in their ability to accomplish goals and capability to succeed (Bandura & Walters, 1977). In Western settings, self-efficacy is a core developmental asset for sustained engagement in social and civic life (Eccles & Gootman, 2002; Scales, Benson, Leffert, & Blyth, 2000). Within the PYD framework, self-efficacy has a significant influence on youth's intercultural attitudes, the time and effort they contribute to social justice issues and their determination to remain involved (Anglin, Johnson-Pynn, & Johnson, 2012; Johnson et al., 2012; Richard M. Lerner, Fisher, & Weinberg, 2000). Research with East African participants found self-efficacy to be both a predictor and an outcome of youth engagement in environmental activities (Westfall, 2014). Furthermore, self-efficacy increased as number of hours of club participation and leadership position increased in Tanzanian R&S members. It was also a motivating factor for engagement with club activities (Johnson-Pynn & Johnson, 2005, 2010). The researchers suggest that in Tanzania and China, self-efficacy gains could be due to R&S projects providing students with an opportunity to 'gain confidence to make their own choices', in a traditionally didactic educational setting (Johnson & Johnson-Pynn, 2007).

Johnson (2005) found that although self-efficacy gains were commonly reported by teachers and program coordinators, students themselves were less likely to report this during interviews yet would do so in self-report surveys. This could be due to members hoping to secure funding from researchers by focussing on setbacks, reflective of the challenges of Western-researchers working in non-Western settings. The authors also highlight potential cultural contexts that may influence students desire to self-enhance in front of peers, in the traditionally collectivist cultures of Tanzania and China (Johnson et al., 2007).

Cognitive Competencies

Johnson and Johnson-Pynn (2007) found that both members and teachers coordinating the R&S program described member gains in cognitive competencies, which extended beyond the scope of the area in which their projects focussed. For example, Chinese participants reported improved English language skills as a result of communicating with members in other countries and translating materials from English to Chinese (Johnson et al., 2007). Both students and teachers described creativity to be one of the bigger gains as a result of R&S involvement. This is attributed to the alternative teaching style used in R&S compared with more traditional pedagogies, for example rote-learning, often used in schools in China and Tanzania (Johnson & Johnson-Pynn, 2007). Chinese teachers reported improvements in students' academic scores, particularly in the areas of biological knowledge, which may be due to projects incorporating cognitive scientific skills. However, students did not report these cognitive gains, instead reporting a key challenge of committing to R&S was it taking time away from academic study. This reflects the strong pressure facing Chinese youth to academically succeed (Johnson et al., 2007).

Although the authors categorise leadership under the cognitive competencies domain, it could also be argued that leadership requires social competencies. Johnson and Johnson-Pynn (2007) found that leadership was ranked as the lowest program outcome by participants. This result is intriguing given the program's mission of developing compassionate leadership skills. This could be reflective of the different approaches taken by the R&S chapters across the globe, including different cultural perspectives towards

leadership. The strong emphasis of the program on youth voice and collaborative decision-making could also impact how students define 'leadership skills', and could be reflective of the pro-social attitudes the program is attempting to develop. Alternatively, it could expose that leadership opportunities are not available to all youth, as during interviews it was only program leaders that reported gains in leadership skills. However, other members did remark that the leadership style in R&S was more democratic and egalitarian than traditional leadership styles, citing examples of leaders asking questions to direct the discussion rather than making decisions (Johnson & Johnson-Pynn, 2007).

Social Competencies

R&S members have demonstrated both social and cross-cultural competencies. As a Chinese leader reported, "Students are able to start to think of arranging things. If you spend plenty of time with it [textbook]…you can get good mark, but working with people…is totally different. So, to learn how to work in a society is totally out of their textbook." In this context, R&S provided opportunities for members to cooperate with others (Johnson et al., 2007, p. 370). The social connections were both a motivating factor and outcome of participation in R&S, which can be reflected in the commonly appearing description of a R&S 'family' (Johnson et al., 2009). As one coordinator reported, "R&S seems to be a very good place for them to interact with students with like-minded motives but different cultural backgrounds" p.372. Opportunities to build cultural competencies are provided through program such as *Partnerships in Understanding*, a twinning program between Chinese and American or Canadian clubs (Johnson et al., 2007). It will be interesting to see how this evolves as access to internet technology permeates through to other Non-Western nations with R&S involvement.

Roots and Shoots as a Service-Learning, Justice-Oriented, Place-Based Program

The only literature dedicated to R&S from an educational perspective is the thesis produced by Macht (2016): *Roots and Shoots Remembered*. This qualitative study interviewed ten young adults that had participated in the program during their middle school years to determine the program influence on prolonged civic and environmental attitudes. It should be noted that the school, Middle Creek, was a unique case where the whole school adopted a R&S curriculum. Major outcomes of the program experience were twofold; a) providing the seeds for ecological literacy and b) inspiring a sustained civic engagement. The author defines ecological literacy as 'recognizing and understanding how even the most seemingly inconsequential human behaviors impact the natural systems of our planet'(Macht, 2016, p. 100). Despite a strong environmental focus of the program at the time the students were involved, the majority of the participant's present civic-engagements were anthropocentric. Seven participants had chosen service-oriented careers and nine were currently engaged in community service. Although their civic engagement was human community-focused, participants used their ecological literacy to motivate everyday pro-environmental behaviours.

Identifying the Pedagogy

What was most pertinent in this thesis was the identification of foundational pedagogies. Although Macht originally identified the program as service-learning, other pedagogical practices were revealed when she retrospectively conducted her research. This culminated in her description of it as a 'service-learning, justice-oriented-place-based learning' program

(Macht, 2016, p. 48). This complexity highlights the need to disrupt the notion that a one-size-fits-all approach can engage students and encompass all that is necessary in education for a sustainable future. Students must understand the relational nature of all factors at play, as proposed by Matthews (2011). Although the whole school approach to the R&S program at Middle Creek may have made it simpler to implement an interdisciplinary program, there is value in exploring the pedagogies involved and extrapolating how they may assist R&S in different contexts.

Service-learning

Service-learning (SL) has long been associated with R&S, and has been identified as the primary pedagogy by Johnson and Johnson-Pynn (2007).   SL is defined as combining coursework with community service (Zeldin & Tarlov, 1997). Eyler (2002) emphasises that to prevent SL being confused with simple volunteerism, a reflective and evaluative component must be introduced for cognitive development to take place. This is prevented if the 5 stages of service learning, as presented in Appendix C, are followed (Kaye, 2010).

Place-based pedagogy, with a justice orientation

Despite driving the implementation of R&S across the school curriculum at Middle Creek, it was not until undertaking her thesis that Macht realised the underlying pedagogical framework for Middle Creek's curriculum was place-based learning (PBL), with an emphasis on experiential learning and civic engagement (Macht, 2016). PBL uses the local environment and community to teach concepts across all disciplines (Sobel, 2005). Although now rising in popularity in schooling sectors worldwide, it is not a new concept - dating back to the early twentieth century (Deringer, 2017; Macht, 2016). PBL connects the learner with the social, political, economic and natural context in which their learning is taking place and is touted to increase academic achievement, assist students in developing stronger connections to their community, develop their appreciation for nature, and encourage their commitment to 'serving as active, contributing citizens' (G. A. Smith & Sobel, 2010; Sobel, 2005, p. 11). Place based *outdoor* learning has emerged from PBL, perhaps in recognition of Louv's seminal work detailing children's limited nature connection (Lloyd, Truong, & Gray, 2018; Louv, 2008). PBL could occur within the confines of a classroom, but this may diminish some of the benefits it provides, removing the vital element of 'real' connections, which Hari (2018) argues is contributing to rising levels of mental health issues. A nature disconnect is also suggested to be one of the reasons young people possess limited knowledge around biodiversity and reduced pro-environmental attitudes and behaviours (Macht, 2016; Schultz, 2002).

At the foundation of PBL are the contributing learning theories of social constructivism, alongside authentic and experiential learning. The social aspect of learning as described by Vygotsky (1978), emphasises the foundational role that peers, adult mentors and community members play in the construction of knowledge and culture. The word 'knowledge', is commonly interpreted as facts or standardised curricular knowledge.   However, in sustainability education the important knowledges include values, attitudes and dispositions towards the natural and social world (Deringer, 2017; Macht, 2016).

PBL scaffolds learning around the place in which the learner is situated, therefore ensuring authentic learning experiences. This learning theory emphasises students taking part in real-world experiences that provide relevance and meaning rather than 'bombarding children with

a litany of terminology for which they have no tangible understanding' as described by Macht (2016) in her critique of conventional education. This learning builds a sense of purpose, as students realise their work is meaningful within the context of their community. Macht (2016) asserts that schools should play a role in the community, and the community should play a role in the school. This connection with community is essential for student engagement with civic responsibilities, and the value of students working with community members is emphasised in the literature reviewed by Macht (2016). Engagement with civic responsibilities is also reflected in R&S research, with 56.4% of participants reporting that they felt it was their duty to 'help others in need and work to improve the world' (Johnson-Pynn & Johnson, 2010).

PBL faces certain challenges to implementation in conventional education settings. The challenges, originally identified by Bob Stevenson, are summarised by Gregory A. Smith (2007):

> These include the presentation of standardised knowledge associated with established disciplines, reliance on teachers as primary information sources, assessment procedures based on ease of marking and justification, and the control of students. Place-based education, an approach to curriculum development and school-community relations that draws upon local cultural, environmental, economic and political concerns, is beginning to challenge these regularities.

Macht (2016, p. 9) relates these challenges to the implementation of R&S within schools, describing R&S as 'more of a philosophical approach to civic engagement than a canned curriculum' but emphasises the value of the elasticity this provides to integrate the program in different contextual settings.

Challenges of Roots and Shoots Research

The R&S research detailed in this chapter is predominantly discovery-oriented, with calls for more longitudinal studies being made (Johnson & Johnson-Pynn, 2007). The research has been conducted in a limited number of countries, and research in cross-cultural settings has been problematic due to a lack of translational measures (Johnson, Johnson-Pynn, Drescher, Sackey, & Assenga, 2018). Drescher (2011) identified the challenges of collaboration that resulted in a small sample size and lack of significant results for civic responsibility, ethnic identity and connection to nature following a R&S intervention. While these matters are problematic, they can be addressed with alternative methods and potentially overcome. The primary challenge is perhaps trying to put measures on a program that has maintained a philosophical approach, allowing flexibility to implement it across vastly different contexts. These different social, cultural, political, economic and ecological contexts unsurprisingly have a profound effect on youth outcomes.

Roots and Shoots: Developing Compassion in Youth

The R&S mission statement includes 'foster respect and compassion to all living things' (The Jane Goodall Institute Australia, 2019b). However, compassion receives little attention in the existing R&S literature, which focuses on civic participation – the 'doing', rather than the values it may instil. Where underlying motivations and outcomes have been considered, it has been towards pro-environmental attitudes, rather than the more holistic compassion R&S aims to develop. Although the "5Cs" model includes compassion as a construct that contributes towards civic participation, the link has not been fully elucidated. As Lerner (2015) highlights, compassion could also be an outcome of contribution. The original model of R&S (see Figure 1) depicts that compassion is developed as a result of knowledge construction, which motivates action. The strong link between compassion and motivation were highlighted by a recent review defining compassion as a 'motivational desire for all living things to be free from suffering' (Roeser, Colaianne, & Greenberg, 2018, p. 241). It is claimed that this motivation drives engagement and individual action that initiates broader effects (Matthews, 2012). Although research has shown school and community shape compassion development, the literature does not detail the mechanism behind this (Roeser & Eccles, 2015). Roeser et al. (2018, p. 247) hypothesize that participant's 'sense of safety and community, interpersonal connection to others in the program, and experiences of being seen and heard' are foundational components in compassion development programs. The existing literature found these components within R&S, indicating that R&S could provide the skills needed to motivate action on the basis of compassion (Johnson et al., 2007; Johnson et al., 2009; Johnson-Pynn & Johnson, 2013).

The literature on compassion development may be lacking due the nature of the object being researched. As Koutselini (2017) reflects 'compassion in research lies on non-positivistic paradigms and methods', which makes traditional measurement of this value challenging. This may result in affective traits being less valued than cognitive measures, yet arguably, with compassion as an example, they could be the foundation of sustainable futures. Additionally, there are many different conceptualisations of compassion, including the mechanisms for its development (Roeser et al., 2018). Ekman (2009) explores the development of compassion along a continuum, starting with *basic* or *familial compassion* (shown towards those most biologically and psychologically like ourselves) through to *great compassion* (displayed to all sentient beings). Alternatively, research with adolescent compassion development defined three categories; self-compassion, compassion to others, and environmental compassion (Bengtsson, Söderström, & Terjestam, 2016). Links between compassion development and self-care, receiving care and being able to extend care to others have been demonstrated (Roeser et al., 2018). Therefore, although some claim *great compassion* to be the rarest form, it could be possible that *environmental compassion* may be the rarest and last to develop given the environment is often considered non-sentient and may not as obviously extend care to humanity. This impression could be challenged by the literature detailing the mental and physical health benefits of spending time in nature, and may validate the relationship between pro-environmental attitudes and foundational experiences in nature (Lloyd et al., 2018; Schultz, 2001). With the rising disconnect with nature, R&S provides opportunities for outdoor learning that may form the foundation of environmental compassion.

Many of the studies regarding compassion training are nascent and have found only moderate effect sizes (Kirby, Tellegen, & Steindl, 2017). Conklin (2008) suggests modelling as a pedagogy for training compassion in teachers of justice-oriented critical pedagogy. At present, only pilot studies have been conducted on youth compassion training, with little literature on evidence-based interventions for children or adolescents. Furthermore, the question remains as to when compassion might be most malleable, with early childhood to young adulthood suggested as providing valuable opportunities (Roeser et al., 2018). Given that research with adolescents suggests compassion decreases with age, it is critical that the most is made of the opportunity to develop this important value (Bengtsson et al., 2016).

'Compassionate Leadership' is a strong theme throughout the R&S Formula Toolkit and R&S-US website (The Jane Goodall Institute, 2017b, 2018b). This concept focusses on developing the affective capabilities of youth. As McLain, an education researcher that consults on R&S states, R&S does not measure its success through the community-based projects implemented by youth. Instead, their success is defined through "developing identities for the kids as compassionate leaders" (Martinez, Goodall, McLain, & Viera-Orr, 2016). According to the online compassionate leadership course offered by R&S, compassionate leadership is rooted in 'identity-based education', which stems from psychology and sociology. A person's sense of self is rooted in:

> 'multiple identities…Each identity lends us a sense that we can do something, a sense of agency in the world. And when we believe we can do something, then we can actually take actions to make a difference.'
>
> McLain in Martinez et al. (2016)

However, a research database search for 'identity-based education' returns limited results. These primarily focus on a theory promoting the use of classroom texts that represent the diverse student identities, rather than developing specific identities (Hernandez & Kraver, 2018). Furthermore, a search for 'compassionate leadership' within education fields focuses on this trait within school leadership staff (Swann, 2001), the physical education curriculum (Martinek & Schilling, 2003) or higher education (Gibbs, 2017). Within organisational and healthcare settings there is a wealth of compassionate leadership literature, much of which focuses on mindfulness techniques (Gilbert, 2017; Rupprecht, Koole, Chaskalson, Tamdjidi, & West, 2018).

According to the online course, the goal of R&S is to provide experiences for young people to develop their compassionate leader identity, by reflecting on the nine traits outlined in Appendix C. However, the theoretical background to these traits is not demonstrated, perhaps because the traits were 'developed by youth, for youth'(The Jane Goodall Institute, 2019a). This is not to dismiss the value of youth in contributing to the program design, but research into the theoretical underpinnings of compassion development may assist in furthering the program. Despite the lack of clarity and research base, the philosophy behind focussing on the development of an affective value is a novel approach for sustainability education, particularly in a world where neoliberal policies preference the value of more easily measured cognitive knowledge.

Conclusion

The literature examined in this chapter validates that R&S holds great promise as a youth development and education program, with gains in self-efficacy, cognitive and social competencies, prolonged civic engagement and pro-environmental attitudes of youth members. Although the approach can be critiqued for lacking a rigorous structure, the literature highlights the benefits of challenging a one-size-fits-all approach, instead adopting an underpinning philosophy based on affective values, that can be adapted across different global contexts (Johnson-Pynn & Johnson, 2005, 2010; Macht, 2016). Despite R&S not following a traditional outcomes-focussed managerialist approach, the program has demonstrated great impacts across the globe since its inception. However, the sustainability of this could be questioned, given that it is challenging to measure the development of non-cognitive knowledges such as values, dispositions and attitudes. Unfortunately for sustainability, a long-term process, program funding is predominantly disseminated on the basis of short-term returns on seemingly measurable outcomes. The R&S vision includes such a long-term outcome - empowering compassionate leaders that 'build a better world' (see Appendix D). However, the research literature on compassionate leadership is nascent, and R&S literature does not portray what this 'better world', or future, may be. This can lead to it being dismissed as nebulous. The futures perspective advocated in this study has the capacity to orient the program at a deeper level and provide youth with a vision of what they are working towards, thus strengthening the existing literature and supporting the program's future development.

Chapter 4: A Futures Orientation

Why a Futures Perspective?

> *'In an increasingly complex and heterogeneous world, futures studies can help people to recover their agency, and help them to create the world in which they wish to live.'*

Inayatullah (2008)

This statement mirrors the mission and vision of R&S - to inspire youth to take action to create a better world. Importantly, however, the words 'they wish', highlights that there can be multiple futures, and that futures studies (FS) can assist young people to determine the steps required to create their preferred future. This perspective is missing in the R&S material examined in the previous chapters. PYD and pedagogical perspectives have investigated civic participation and affective values, but have focused on action rather than the deeper reasoning behind the 'why' of those actions and the 'what' they are working towards. Therefore, the methodological orientation of this chapter is concerned with clarifying a futures studies perspective and examining how an alternative future vision may foster youth agency in enacting sustainable futures. Such a perspective advocates an envisioning of the world youth want such that they can disrupt the norms directing them towards an unsustainable future.

The Emergence of Futures Studies

FS is a relatively new area of study considering multiple alternative futures; those that are probable, plausible and preferable (the "3Ps" of futures: Galtung, 1982; Gidley & Hampson, 2005; Sardar, 2010). FS originated as an academic discipline in the 1950s following the World Wars, with looming atomic war forcing policy makers to confront what future may be shaped by present actions (Branchetti et al., 2018). As the area of futures studies has evolved over the last 60 years it has progressed from a focus on predicting what will happen in the singular future, to conceptualizing a multiplicity of alternative futures (Inayatullah, 2013b; Saul, 2001). However, in common discourse the singular term 'future' perpetuates, reflective of the underlying belief that there is one future. Present-day actions then become self-reinforcing, creating the singular future view held. To subvert this, rather than focusing on prediction, futures studies uses foresight to creatively visualise novel ways of 'organizing how decisions are made and who participates in them' (Inayatullah, 2013b). The past is still inextricably involved, as it provides a valuable resource to influence todays actions in shaping the preferred tomorrow (Wals et al., 2017).

FS spans a broad range of academic disciplines from medical to environmental science, economics and international relations, to education and global social studies (Gonzalez, 2012). Unsurprising perhaps, given the future is common to all disciplines. Rather than focusing on a narrow system, FS attempts to uncover the complexities of the world system. FS has been criticised for lacking a proven methodology such as that of the natural or social science fields, with an interdisciplinary approach falling between the arts and sciences resulting in it being relegated to the label of 'pseudoscience' (Inayatullah, 2013b; Oxford

University Press, 2019). This account reflects the way the brain learns, and thus society functions. Categorization is essential to the cognitive capacity to learn, providing a way of relating new knowledge to an existing schema to overcome the complexity and diversity that exists (Bornstein & Arterberry, 2010). However, an inability to conceptualise the relational nature of the complexities at play may be a significant factor in the social and ecological crises at present. For example, the categorization of the world into 'us' (humans) versus 'them' (animals, plants and the natural environment) may contribute to a lack of compassion towards the non-human elements and further barriers in understanding of relational interconnections (Bengtsson et al., 2016; Matthews, 2012; Schultz, 2001).

With this in mind, a study of futures is now more important than ever, in an era where rapid change has become the norm:

> We have known since Heraclitus that "there is nothing permanent except change," but in our era, the rhythm of change is accelerating. We are living in a period of transformation of unprecedented magnitude and speed. The future seems to be hurtling towards us at full tilt (Inayatullah, 2016).

From a relatively simple foundation, the field of FS has become incredibly complex, with areas of fragmentation reflective of the layering that has occurred as different disciplinary authors have contributed to the field. The paradoxical nature of the discipline promulgates it being often misunderstood, or misused (Slaughter, 2018). Figure 2 provides an overview of the core concerns, and philosophical assumptions underpinning futures studies.

Core Concerns	Philosophical Assumptions
Time Complexity Systems Networks Innovation Progress	• the future is not predetermined and cannot be known or predicted • the future is determined partly by history, social structures and reality and partly by chance, innovation and human choice • there are a range of alternative futures which can be 'forecast' • future outcomes can be influenced by human choices • early intervention enables planning and design; whilst in 'crisis response' people can only try to adapt and/or react • ideas and images of the future shape our actions and decisions in the present • our visions of preferred futures are shaped by our values; and humanity does not make choices as a whole nor is it motivated by the same values, aspirations and projects

Figure 2: Core Concerns and Philosophical Assumptions of Futures Studies (Milojević, 2005; Paige & Lloyd, 2016; Richard A Slaughter, 2018; Urry, 2013)

Why does the future get left out?

Thinking about the future is a natural human disposition, yet truly long-term thinking is often ignored at both the individual and organisational level (Paige & Lloyd, 2016). This may be due to the future's main characteristics such as uncertainty, possibility and impossibility inducing anxiety and fear (Branchetti et al., 2018). Where cognitive knowledge is valued above creativity and critical thought, it may be uncomfortable and perhaps too unwieldy, to face up to a multitude of possibilities (Hicks & Holden, 2007). Therefore, rather than pausing to examine the future, accepted social and cultural norms are followed. Technology may promulgate this, providing comforting answers as to how things have previously been done, available at the touch of our fingertips. When lacking in time or courage to envision an alternative, the 'near future' is a more pleasant space to operate in (Hicks, 2012; Wals et al., 2017).

Bateman (2009) summarises the critiques of FS, although many are contradictory themselves. For example, the field is described as lacking intellectual quality because it is too broad, and yet at the same time is thought of as homogenous by others. This homogeneity may refer to it having remained in an academic realm, with a loose community of futurists whose lack of communication and collaboration has seen it expand into a fragmented and obscure field (Marien, 2010). Although some have adopted a more recent action-research perspective, as discussed in Chapter 5, there is still relatively little activism emerging from the field (Ramos, 2006). Concerns have been raised as to the lack of attention paid to the voices not present in the discourse, including the youth, that may provide innovative visions of alternative futures (Bateman, 2009).

Futures Education

It is worrying that over recent decades professionals and corporations have recognised the value of futures approaches better than educational institutions, despite the inherent focus of the future within education (Hicks, 2012). As Branchetti et al. (2018, p. 11) question, 'If the role of education is to prepare learners for the future, how can education prepare learners for an uncertain future?'. While futures cannot be predicted with certainty, it can be said without doubt that many of our current educational practices are driving unsustainable futures (Matthews, 2011). This is often reflected in a short-term view of the future of education, focussing on high-tech classrooms (Bateman, 2015). As Slaughter (2002, p. 177) argues, 'rather than considering the future *of* education, we should be considering futures *in* education'.

There have been several innovative educators that have driven the push for the inclusion of futures within educational theory and practice since the 1960s (Slaughter, 2002). However, the adoption of futures in education has often ebbed and flowed with the economic and political situation of the country in question. Although many governmental declarations include futures thinking within their goals, there has been limited advancement of futures education (FE) over the last two decades (The Futures Foundation, 2019).

Specific futures curriculum resources have been developed for early years (Page, 2002) and primary settings (Hicks, 1994) however by secondary school these approaches often 'vanish

like smoke on a windy day and are seen no more' (Slaughter, 2002) p. 175. These years could be when empowerment-oriented techniques are most important, given the rising sense of apathy observed in adolescents (Gidley & Hampson, 2005; Hicks & Holden, 2007). Indeed, younger children naturally demonstrate many of the characteristic's futurists try to instil – creativity, curiosity and optimism (Hicks & Holden, 2007). The cause of the overarching sense of apathy towards the future demonstrated by age 25 has not yet been elucidated (Gidley & Hampson, 2005). Whilst some youth have a more positive view of their own personal future, their vision of their global future tends to be overwhelmingly pessimistic (Liu & Lin, 2018; C. Smith, 2010). This is concerning, with clear associations between students' images and optimism towards possible futures and their self-esteem, social responsibility, and academic progress (Morawiak, Mrozinski, Gutral, Cypryańska, & Nezlek, 2018; Paige & Lloyd, 2016).

The way the future is currently presented in cultural texts could be an underlying factor. Currently, two future 'images' prevail; dystopian apocalyptic futures or futures of high-tech science fusion (Liu & Lin, 2018). While dystopian futures are likely to only induce apathy, those of technological advancement may perpetuate the belief that technology will be the 'silver bullet' answer to complex problems, and diminish individual agency. Although Galtung expressed this concern in 1982, it still pervades (Galtung, 1982; Inayatullah, 2016; Liu & Lin, 2018). However, the use of sci-fi images should not be completely dismissed, as they may assist in creating alternative visions of futures that may otherwise be seemingly impossible (Wals et al., 2017).

FE holds promise in offering alternative futures to youth that may instil a sense of hope and optimism. It has the ability to inspire students with agency over constructing the future, and provides a platform for youth voice through the encouragement of youth participation in decision-making. Several authors have highlighted that empowerment-oriented techniques can help to counter young-people's fears about the future (Gidley, 2001; Head, 2002; Slaughter, 2002). Research found Steiner school students demonstrated stronger abilities in envisioning futures, and they were generally more positive and social ones, however determining causal relations is challenging due the alternative educational approach (Gidley, 2010). A FE intervention found students' future images were increasingly positive and that male participants showed significant reductions in scores of 'hopelessness'. However, females became increasingly hopeless and those already experiencing clinical depression became more depressed initially (Stewart, 2002). It is clear that more research needs to be done, with a focus on the psychological and affective aspects, which have not been explored in detail so far other than the work of Rogers (1998).

When futures techniques have been explored in primary settings they have been met with interest and enthusiasm from students (Bateman, 2012). However, this has not been matched by teachers, who were found to be uncomfortable themselves when asked to describe future visions. Futures-based pedagogies are lacking, if existent, in teacher education courses (Hicks, 2012). Additionally, teachers may feel daunted in supporting the rollercoaster of emotions students feel when thinking about individual and global processes, itself (Gidley & Hampson 2005). Given these factors, it is unsurprising that teachers may put futures in the 'too hard' basket when under pressure from multiple external stakeholders (Bateman, 2015).

Perhaps the most challenging obstacle to implementing integral FE is the setting itself, 'steeped in specialized disciplinary domains' (Bussey, 2017). At the secondary level, FE has been included in curriculum areas such as citizenship education, geography or health and physical education (Hicks, 2012; Macdonald, Enright, & McCuaig, 2018). Although some authors believe that futures should have its own curriculum, many promote the inclusion of futures in all lines of inquiry (Bateman, 2012; Slaughter, 2002). This reflects the very nature of the discipline itself –futures thinking could be considered more of a perspective. However, where the education system prevents a futures perspective being taken, and there is no teacher training, implementation risks taking a tokenistic, narrow and technical view FE, despite its foundations comprising a wider critical and relational view (Gidley & Hampson, 2005; Hicks, 2012).

Futures is moving away from a tacit approach in education for sustainability (EfS) (Hicks & Gidley, 2012). However, EfS is similarly plagued by divergent thinking and authors in the area. Despite the evolution from Environmental Education (EE) to Education for Sustainability (EfS), many educators still hold the traditional view of this approach concerning only environmental sustainability, rather than a more integrated view recognising the relational nature of the social, political, economic and ecological aspects. This results in many similar challenges between implementing FE and EfS (Wals et al., 2017). An inclusion of FE in EfS may assist in countering the critique of EfS's negative outlook by providing a space to promote positive sustainable futures (Nagel, 2005). Arguably, considering the short timescale to act upon ecological crises, both EfS and FE should be underpinning all education. Although broad curriculums allow for this, external pressures such as standardised testing restrict teaching to narrow concepts that are easily assessed (Polesel, Rice, & Dulfer, 2013). Therefore, it may be necessary to look outside of formal education to offer a framework where futures thinking can be encouraged, supported by educators and acted upon by youth – could Roots and Shoots be an option?

Where FS has not successfully translated its integrated approach to thinking about the future into action, R&S has empowered youth to take immediate and direct action without necessarily holding a long-term view of what that action is working towards. Without this, immediate actions may be self-reinforcing in re-creating the present. The pedagogical bases of R&S, identified in Chapter 3, could be strengthened with a futures perspective. However, this chapter has identified a gap in the FS literature between academic theoretical articles and FE classroom resources, which may perpetuate the poor translation of futures perspectives into youth programs. Therefore, it was necessary to first develop a framework, such that futures studies could be used as a critical and analytical tool to orient a futures perspective within the youth program under question, R&S.

Chapter 5: Developing a Futures Tool for Youth

Futures thinking is generally left to the realm of organisations and institutions in their strategic planning (Gidley, 2017; The Futures Foundation, 2019; Wals et al., 2017). The methods within this area are vast and often complex, which may be stalling the advancement of the field (Poli, 2018). When it comes to futures education, the literature is limited to specific classroom tools (C. Smith, 2010), higher education courses (Hayward, Voros, & Morrow, 2012; Valsiner, Lutsenko, & Antoniouk, 2018) and historical accounts of the evolution of the field (Liu & Lin, 2018; Paige & Lloyd, 2016). To provide teachers with a step-by-step strategy or specific classroom resources may dismiss the fields underpinning requirement of critical thought, and would be unlikely to provide relevance to youth across multiple contexts (Haigh, 2016). Nevertheless, Hayward et al. (2012) 'only half-jokingly' remark that to gain a true philosophical understanding of futures studies one must begin with the sum of all human knowledge, and explore from there (p.184). This could be somewhat ambitious for a time-poor teacher wishing to open their students' minds to alternative ways of thinking regarding futures. To successfully incorporate FE across their pedagogical practices educators require a framework, relevant for youth, that bridges the gap between individual tools and philosophy. Such a framework would enable both the teacher and student to extend their critical capabilities, based on core concepts. Therefore, in this chapter the existing literature and methods used for futures approaches with organisations have been analysed to develop core futures concepts of relevance for youth. To do so, one must start with an, albeit brief, understanding of the theoretical perspectives informing futures studies.

The Theoretical Foundation of Futures Studies: A Brief

Three theoretical perspectives formed the early foundation of futures studies from the 1960s to 1990s; predictive, interpretive and critical. The predictive perspective focused on empirical social science research and, as the name suggests, predicting what the future might hold (Inayatullah, 2013b). The interpretive tradition, sometimes referred to as 'cultural', acknowledged the need for a wider worldview when considering futures, including the non-Western perspectives advanced by Inayatullah and Sardar (Gidley & Hampson, 2005). The critical perspective introduced post-structural thought, highlighting power discourses while investigating who benefits from different methodologies and particular futures (Inayatullah, 2013b; Urry, 2013). In the 1990s, Paul Wildman proposed another theoretical foundation with a pro-active, activist approach that was adopted by Inayatullah as the fourth theoretical perspective, titled 'action research' or 'participatory' (Gidley & Hampson, 2005). At a similar time, Slaughter introduced 'integral futures', recognising the need for an interdisciplinary, relational approach (Slaughter, 2015). Therefore, although Inayatullah still refers to four theoretical bases (Inayatullah, 2013b), Gidley and Hampson (2005) propose five: predictive, interpretive, critical, empowerment-oriented action research and integral.

Gidley and Hampson (2005) identify two key meta-methodologies for practitioners to analyse complex issues and synthesise possible solutions; *Causal Layered Analysis*, a method used by Inayatullah (2006, 2013) and the *Integral Framework* proposed by Ken Wilber (Wilber, 2000). CLA can be used for the diagnosis of a problem and the creation of solutions whereas the integral framework recognises the need for higher-order, interdisciplinary thinking that

'moves beyond narrow specializations, reductionism, and small-minded 'rationality'' (Gidley and Hampson, 2005). However, its complexity makes it unwieldy for use by educators working with youth. Conversely, CLA is just one of the many tools proposed by Inayatullah. Although it encompasses much of the thinking required for a futures mindset, the extra developments in the field of futures thinking advanced by this author should also be recognised. Therefore, the approach for this study was to widen the scope beyond just CLA to consider the evolution of Inayatullah's approach. The core concepts proposed have drawn together the six key concepts, six pillared framework, and sets of futures questions developed by Inayatullah over the last two decades (Inayatullah, 2008, 2013b). An overview of this is provided in Figure 6, but to elaborate on the development of these core concepts, the foundations are described in more detail below.

Six Key Concepts of Futures Studies:

The 'used' future

When a singular future is envisioned, often an image pre-purchased from someone else, present actions will be self-fulfilling in the creation of that future. Inayatullah (2008) provides the example of many Asian cities following the urban development of Western cities many generations ago. Western Mayors are now realizing the mistake of allowing unbridled growth that has created megacities where people have jobs but their connection to nature and community, essential for wellbeing, are missing from their lives. Inayatullah (2008) argues that the notion of a *used future* is continuing to create many of our ecological and social crises.

The 'disowned' future

Whilst focused on strategic plans and urgency of the present, the future is pushed away and becomes something that happens to individuals. Inayatullah (2008) uses the metaphor, a common theme in his futures work, of the tortoise and the hare. The hare is focused on quick, short-term wins, whilst the reflective, contemplative tortoise may hold the answer to the future. In order to re-own the future, the importance of learning from others and appreciating other ways of thinking, knowing and doing must be recognised.

Alternative futures

To avoid humanity continuing to make the same mistakes resulting from disowned and used futures, a multiplicity of alternative futures must be considered. This will empower human agency in embracing uncertainty and flexible approaches to adapt to the unknown (Inayatullah, 2008).

Alignment

FS brings awareness to the disconnect between day-to-day-actions, often based on solving urgent 'present' problems, and greater long-term vision. Although often referred to in the context of organizations, it is a concept that can also be applied at the individual level. Inayatullah (2008) proposes that a disruption of traditional measurement of organizational indicators may be required to achieve greater visions. Parallels between this can be drawn between the formal education system, aiming to equip students for uncertain futures, but still relying on traditional measures of success.

Social Change

The ability for social change to happen depends on how the future is envisioned by those that are part of the movement. Only if those enactors truly believe in their agency to create a positive future image, can it be created. If the future envisioned is bleak, a sense of apathy may ensue (Gidley & Hampson, 2005). This could lead to potential creators of social change, our youth, absolving their responsibility.

The use of the future

Futures thinking develops capacity and empowerment within individuals, organizations and institutions to make use of the future by introducing strategies, techniques and methods to develop metacognition around used, disowned and alternative futures. A futures approach does not infer that the correct future will be predicted or the 'right' strategy can be determined, but its focus is 'enhancing confidence to create futures we desire' (Inayatullah, 2008, p. 6). To do this, futures methods emphasise that the present is a construct of previous actions, therefore the societal, social, and political norms that have brought about these must be examined and de-constructed.

The Six Pillars of Futures

The six pillars, first published by Inayatullah in 2008, and elaborated upon in 2013, are one of the most comprehensive frameworks for futures thinking, encompassing both the methods and concepts framing futures themes of thinking, knowing and acting (Inayatullah, 2008, 2013b). In addition to the two founding pieces of literature mentioned, methods and concepts underscoring the framework have been further elaborated upon in recent literature (Bateman, 2012; Bussey, 2017; Carbonell, Sánchez-Esguevillas, & Carro, 2015; Haigh, 2016; Inayatullah, Izgarjan, Kuusi, & Minkkinen, 2016; Liu & Lin, 2018; Milojević & Inayatullah, 2015; Watson, 2009). The six pillars and supporting methods are outlined in Table 1, and explained in further detail below. Due to the overlapping nature and complexity of the framework, an overarching 'concept' was created to succinctly summarise the theme of each pillar, taking into account the literature mentioned above.

	MAPPING	ANTICIPATION	TIMING	DEEPENING	CREATING ALTERNATIVES	TRANSFORMING
Concept(s)	Create an environmental scan of the future	Uncover trends that may disrupt the map of the future	The present is a construct of the past; How can historical trends assist in constructing the future	Critical thought: What is seen is the tip of the iceberg; Identifying the competing narratives	Creative thought: Disrupt the narrative of a used future	Action – oriented: Constructing the preferred future
Core Method(s)	Triangulating: Weights of the past Pushes of the present Pulls of the future	Emerging Issues Analysis	Macrohistory to determine patterns, stages and mechanisms of change Timing as linear/cyclical/pendulum/spiral	Causal Layered Analysis Litany System Worldview/culture Underlying narrative/metaphor	Scenario Planning: Exploring alternative futures to create a sense of empowerment and optimism	Envisioning Analytic scenarios Questioning Creative Visualisation ↓ Back-casting ↓ Transcending Creating a win-win situation from conflicting visions
Additional Methods/Tools	Shared History Timeline Situation of future images in the futures landscape	Causal Layered Analysis Futures Wheel	Scenarios Leadership theories Theories of change New futures are driving by creative minority Hinge periods Biography of change Life stages Life cycles		There are multiple methods for scenario planning: Multi-variable Double-variable Scenario Archetypes Four case scenario Preferred-disowned-integrated-outlier	
Examining the past and the present					**Creating the future**	

Table 1: *The concepts, methods and tools of the Six Pillars of Futures (Inayatullah 2008, 2013).*

Victoria Kinsey-West:

Pillar One: Mapping

The core methodology to 'map' the future involves a triangulation of the pushes of the present, weights of the past and pulls of the future. The pushes of the present are analogous to the drivers of change, for example advancing technology or youth bulge demographics (Gould, 2008). Determining the weights of the past shares much overlap with methods used in the timing pillar. A key method for this is the creation of a 'shared history' timeline, to recognise how the past may influence current ways of knowing and doing. The pulls of the future are often described as images. It must first be recognised whether this image is singular or multiples exist. Following this, the image(s) can be situated in one of four levels of a futures landscape, as follows:

1. Jungle: Survival of the fittest, technology and entrepreneurs will save us.
2. Chess Net: Plan for the future strategically and build competency to be a step ahead of the emerging trends.
3. Mountain tops: Alternative futures, using scenario methods and foresight
4. Sun/Star perspective: A clear vision of what the future is and detailing the response within this (Gould, 2008).

Pillar Two: Anticipation

This pillar is concerned with identifying what current emerging trends may disrupt the map created by the first pillar. By anticipating these disruptions, opportunities for change can be developed to prevent the disruptive trends becoming problematic. However, as Inayatullah (2013b) highlights, one must be cognisant of the effect of assuming that these trends will occur, to prevent the fulfilment of a 'used' future. The key method for this pillar is *Emerging Issues Analysis,* as first developed by Graham Molitor (Inayatullah, 2017). Carbonell et al. (2015) propose that CLA may also be a useful tool in identifying emerging trends, due to the depth and breadth of aspects it explores.

Pillar Three: Timing

This pillar has perhaps the most developed literature base, reflective of the importance of the past in constructing the present, and empowering agency in the creation of the future (Bateman, 2012; Bussey, 2017; Inayatullah, 2017). It recognises how cultural temporal assumptions impact the way the future is enacted (Bussey, 2017). The macrohistory method aims to unveil how the prevailing assumption of time as linear may be promulgating the idea of the present continuing into the future undisturbed and unabated (Inayatullah, 2017). Examining the past ensures the plausibility 'P' of futures thinking – 'once patterns can be understood, then agency is possible. The preferred future becomes not distant but actionable, realizable' (Inayatullah, 2017, p. 32). An examination of macrohistory may reveal alternative temporalities such as the cyclical paradigm of Indigenous "dream time"(Bussey, 2017). Although thinking of timing as cyclical and under the control of nature rather than our individual person could reduce agency, the normative paradigm of a linear model does little to induce action. Rather, an examination of historical patterns to show how previous actions have constructed the present, including the disruptive actions of humanity in contrast with natural cycles, may enable a vision of ourselves as agents- part of a bigger, relational sphere. As Bussey (2017, p. 245) writes, optimism can be fostered by 'making explicit the temporal models that either inhibit or facilitate transformation'.

Other methods in this pillar include using scenarios, narratives and leadership models to examine historical patterns (Bussey, 2017; Inayatullah, 2017; Milojević & Inayatullah, 2015). Theories of change also fall under this pillar as they investigate changes over time, which are discussed in the context of meso-insitutional and meso-organisational levels (Inayatullah, 2013b). Although the detail of these is beyond the scope of this dissertation, the inclusion of Jenny Brice's theory of change should be noted as it relates to Inayatullah's concept of social change, mentioned above. This theory upholds that the goal should not be to transform an entire organisation, but to find the champions of that change, with as few as 10% capable of affecting change. This could be extrapolated to empower youth agency over affecting social change, even if those students only account for one tenth of the school population. Inayatullah's inclusion of microtiming/biography of change should also be noted as it aligns with the reason for developing an alternative framework for youth futures. He stresses the importance of considering what life stage participants are at – those in adolescence may be more short-term oriented around the future and an older person may be more vulnerable or risk averse when considering the future (Inayatullah, 2013b).

Pillar Four: Deepening

This pillar is concerned with determining what competing narratives are present, using CLA as the core methodology. CLA is a post-structuralist method developed by Inayatullah to discover the underlying causation of the surface appearance of situations through four layers as shown in Figure 3 (Haigh, 2016; Inayatullah, 1998).
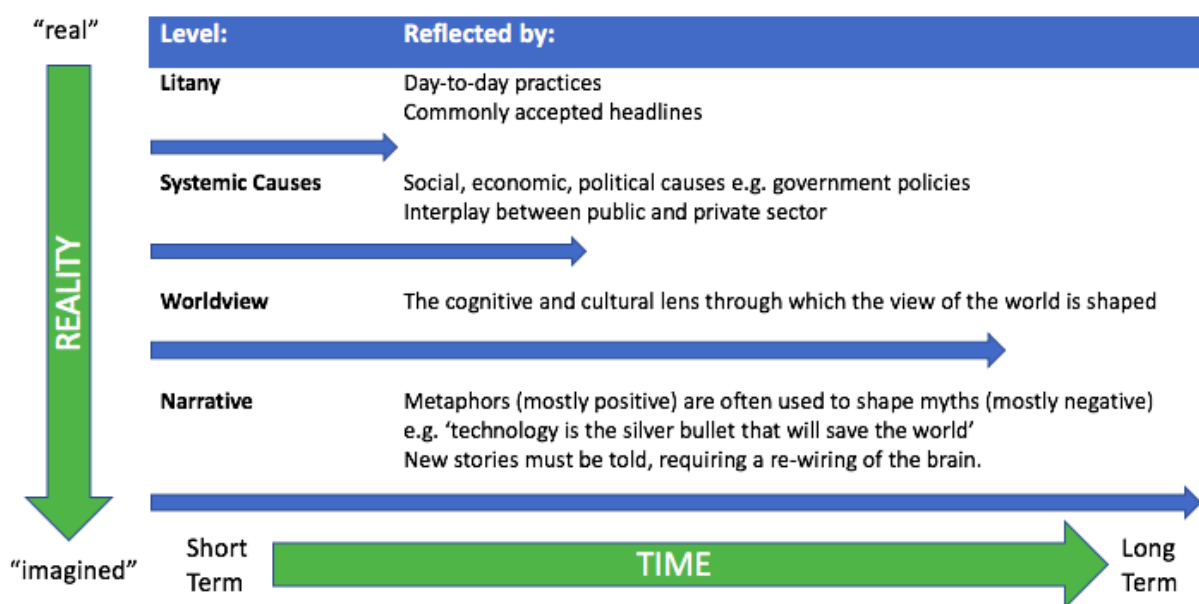
Figure 3: Causal Layered Analysis, adapted from Inayatullah (2013) and Inayatullah (2013a)

As shown in Figure 3, the sequential layers include and incorporate those above. Therefore, although Inayatullah maintains that one layer should not be privileged over another, the largest influence stems from the narrative. The aim of CLA is to make the sub-conscious, conscious. As Haigh (2016) highlights with his work using CLA in higher education, the layers should be worked through sequentially, to scaffold students' critical thinking development.

The importance of critical questioning is emphasised by Haigh (2016), in a world of supercomplexity where the array of information can be overwhelming:

> 'critical thinking, combined with compassion, is the third eye of an educated citizen; something that allows them to understand more than they are told and to know when they are being misled by appearance'

> (Rege, 2010) as cited in Haigh (2016).

Given the importance of developing critical thought in youth, there is an obvious need for an age-appropriate method that frames their realisation of underlying narratives. This should maintain relevance and empower agency, however CLA could possibly result in youth perceiving the problem as too large, and beyond their ability to positively impact.

Pillar Five: Creating Alternatives

The previous four pillars have focussed on an examination of the past and the present, often framed in a problematic sense. This is the first pillar that introduces the true foundation of futures studies; alternative futures, which are created through the process of scenario planning, of which multiple methods exist (Inayatullah, 2013b; Paige & Lloyd, 2016). Common to many of these methods are negatively framed scenarios. For example, Schwartz's four case scenarios involve *continued growth*, *collapse*, *steady state* and *transformation.* Although transformation is achieved by challenging the assumptions underpinning the first three scenarios, the first three produce dystopian futures. This is reflected in cultural texts predominantly favouring dystopian future scenarios (Gidley & Hampson, 2005). Therefore, using these methods with youth, already increasingly pessimistic about global futures may contribute towards disempowerment.

Pillar Six: Transformation

Although Inayatullah defines *transformation* as a separate pillar, it could alternatively be viewed as the amalgamation of the previous pillars into an action-centred process where the future is narrowed towards the preferred option. Firstly, alternative futures are created through the process of envisioning. Inayatullah (2013b) suggests three methods for envisioning: analytic scenarios (e.g. those used in the fifth pillar), questioning to encourage individuals to consider what they would like their future to look like, and creative visualisation. The last method, which Inayatullah refers to as using the visual 'right brain', aims to use a creative process to generate alternative possibilities not otherwise thought about. Although the right-brain, left-brain 'myth' has been debunked, it can still be argued that in a world that tends to focus on cognitive processes, there is value in using a creative perspective (Nielsen, Zielinski, Ferguson, Lainhart, & Anderson, 2013).

These three methods are triangulated to decide on an 'envisioned future', which can then be back-casted, a method devised by Elise Boulding. Back-casting bridges the gap between the present and imagined future (Boulding & Boulding, 1995). It uses questioning, once again, to ask the who, what and how of what happened to create today (Wals et al., 2017). This process is inextricably linked with the first and fifth pillars of the framework, as reflected in much of the overlap between not only the pillars but also the methods and concepts. Wals et al. (2017)

argue that the most important question within this is what might need to be disrupted to create the preferred future, yet this is often ignored.

Importantly, Galtung offers an option for when a group's visions conflict, through the process of 'transcending' (Inayatullah, 2008). This process finds a compromise; a win-win solution for both parties by spelling out the issues within the conflicting visions. This aligns with the concept of *disowned futures* – recognising the importance of alternate ways of thinking rather than withdrawing because they do not align, and is emphasised in the recent work of Wals et al. (2017).

Questioning the Future

A feature in both of Inayatullah's prominent pieces on the six pillars, (Inayatullah, 2008, 2013b) are sets of questions as detailed in Figure 4 and 5. In his earlier work the questions form the foundation of the pillars, whereas in the later piece, they are a result of reducing the contents of the pillars.

The six basic futures questions

1. What do you think the future will be like? What is your prediction? More and more progress and wealth? Wealth for the view? A dramatic technological revolution? Environmental catastrophe? Why?

2. Which future are you afraid of? Random acts of violence? Do you think you can transform this future to a desired future? Why or why not?

3. What are the hidden assumptions of your predicted future? Are there some taken-for-granted assumptions (about gender, or nature or technology or culture, or . . .)?

4. What are some alternatives to your predicted or feared future? If you change some of your assumptions, what alternatives emerge?

5. What is your preferred future? Which future do you wish to become reality for yourself or your organization?

6. And finally, how might you get there? What steps can you take to move in toward your preferred future? As it says in ancient Buddhist texts, much of the solution to the challenge of life is simply in being pointed in the right direction.

Futures questions are summarized thus: will; fear; hidden assumptions; alternative futures; preferred future; and next steps.

Figure 4: *The original questions underpinning the six pillars of futures (Inayatullah, 2008 p.7)*

> **QUESTIONING THE FUTURE**
>
> The Six Pillars process can also be reduced to the following simple questions. The questions in themselves are a method: a way to question the future. They can be used to help individuals and organizations to embark on transformation.
>
> 1. What is the history of the issue? Which events and trends have created the present?
> 2. What are your projections of the future? If current trends continue, what will the future look like?
> 3. What are the hidden assumptions of your predicted future? Are there some things taken for granted (about gender, or nature or technology or culture)?
> 4. What are some alternatives to your predicted or feared future? If you change some of your assumptions, what alternatives emerge?
> 5. What is your preferred future?
> 6. How did you get here? What steps did you take to realize the present?
>
> The final question is based on CLA:
>
> 7. Is there a supportive narrative, a story? If not, create a metaphor or story that can provide cognitive and emotive support for realizing the desired future.

Figure 5: The second iteration of the futures questions associated with the six pillars process (Inayatullah, 2013 p.60)

In conclusion, the concepts, pillars and questions are complexly linked, incorporating overlapping themes and an array of methods and tools that may deter educators wishing to approach futures thinking in their classroom. Additionally, as shown in Table 1, many of the concepts explore negatively framed historical methods, which may instil apathy rather than hope in young people. Therefore, the different approaches have been reviewed (as shown in Figure 6) and four core concepts have been derived that are the most appropriate and significant for youth futures work:

1. Looking back to look forwards
2. Questioning assumptions
3. Use of narrative(s) to support vision
4. Envisioning alternatives, including a preferred future

It should be highlighted that evidently, given the literature reviewed above, a recognition of the value of multiple perspectives underpins all of these concepts.
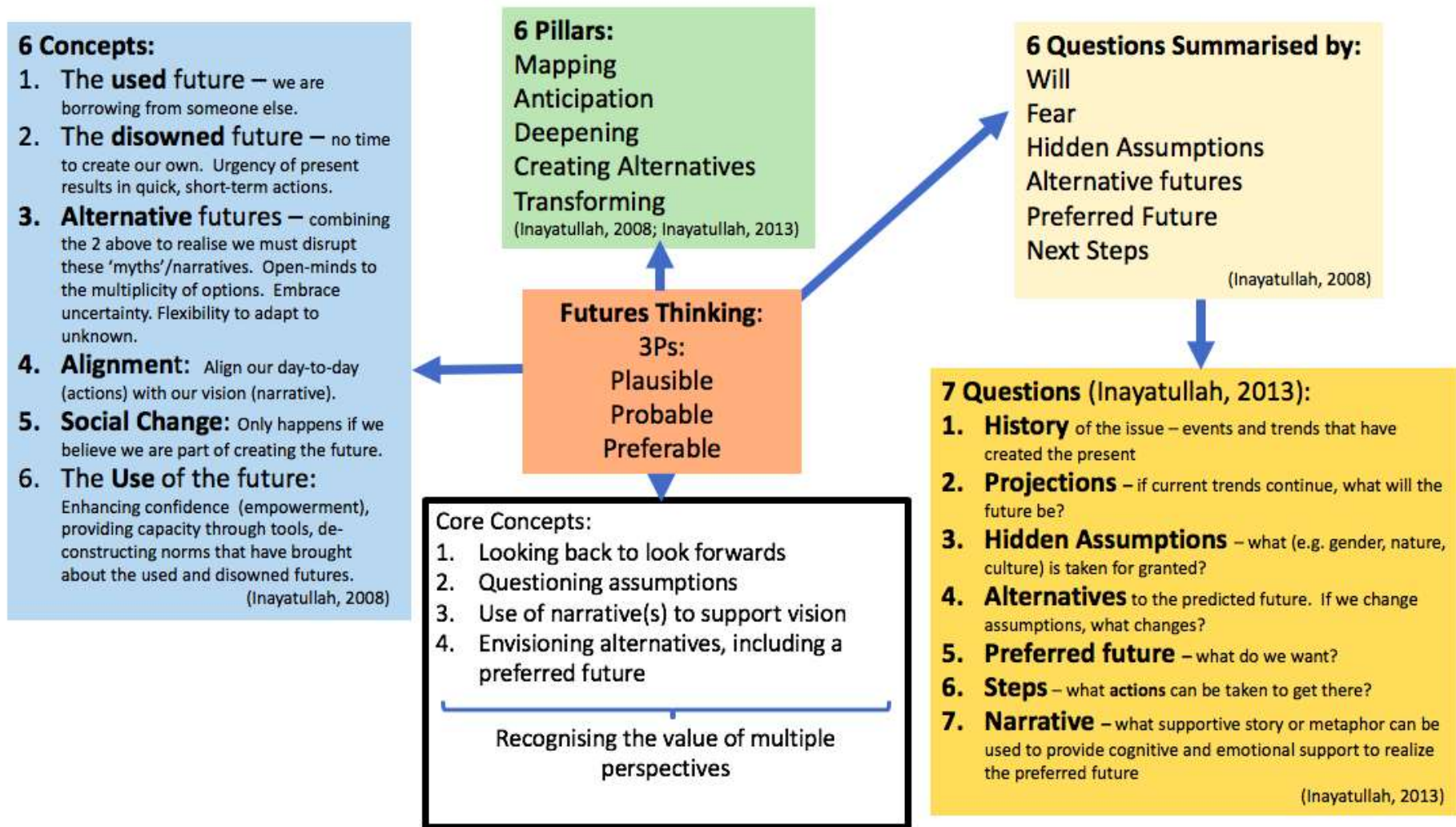
6 Concepts:
1. The **used** future – we are borrowing from someone else.
2. The **disowned** future – no time to create our own. Urgency of present results in quick, short-term actions.
3. **Alternative** futures – combining the 2 above to realise we must disrupt these 'myths'/narratives. Open-minds to the multiplicity of options. Embrace uncertainty. Flexibility to adapt to unknown.
4. **Alignment:** Align our day-to-day (actions) with our vision (narrative).
5. **Social Change:** Only happens if we believe we are part of creating the future.
6. The **Use** of the future: Enhancing confidence (empowerment), providing capacity through tools, de-constructing norms that have brought about the used and disowned futures.

(Inayatullah, 2008)

6 Pillars:
Mapping
Anticipation
Deepening
Creating Alternatives
Transforming

(Inayatullah, 2008; Inayatullah, 2013)

Futures Thinking:
3Ps:
Plausible
Probable
Preferable

6 Questions Summarised by:
Will
Fear
Hidden Assumptions
Alternative futures
Preferred Future
Next Steps

(Inayatullah, 2008)

Core Concepts:
1. Looking back to look forwards
2. Questioning assumptions
3. Use of narrative(s) to support vision
4. Envisioning alternatives, including a preferred future

Recognising the value of multiple perspectives

7 Questions (Inayatullah, 2013):
1. **History** of the issue – events and trends that have created the present
2. **Projections** – if current trends continue, what will the future be?
3. **Hidden Assumptions** – what (e.g. gender, nature, culture) is taken for granted?
4. **Alternatives** to the predicted future. If we change assumptions, what changes?
5. **Preferred future** – what do we want?
6. **Steps** – what **actions** can be taken to get there?
7. **Narrative** – what supportive story or metaphor can be used to provide cognitive and emotional support to realize the preferred future

(Inayatullah, 2013)

Figure 6: The process used to develop the Core Concepts through analysis of futures concepts, pillars and questions (Inayatullah, 2008, 2013b)

Chapter 6: Locating a Futures Orientation for Roots and Shoots

In this chapter, the core concepts identified in the previous chapter for familiarising futures with youth will be used to orient a futures perspective for the R&S Formula Toolkit (The Jane Goodall Institute, 2017b). The flexible nature of the R&S program adopts divergent approaches worldwide, therefore this study has used the R&S Formula Toolkit produced by the US headquarters. Although this toolkit may have been designed to provide educators accustomed to prescribed curricular with a framework for the program, it should be recognised as a tool that does not necessarily need to be strictly followed. The toolkit follows the four-step model identified in Chapter 2, with suggested activities for each step, alongside supplementary materials. It is complemented by an online six-week course for educators: 'Compassionate Leadership through service-learning with Jane Goodall and Roots and Shoots', therefore was deemed to provide the most comprehensive outlook as to how R&S may assist youth in visualizing and acting upon sustainable futures (The University of Colorado Boulder, 2017).

As detailed in the previous chapter, many of the concepts of futures thinking are interrelational. Therefore, while aspects of the toolkit have been aligned with each of the four core concepts determined in Chapter 5; Looking back to look forwards, Questioning assumptions, Use of narrative(s) to support vision, and Envisioning a preferred alternative future, there are many commonalities. This chapter positions the question of how R&S may assist youth in visualizing and acting upon sustainable futures within these concepts, and offers suggestions for how a futures perspective may further their vision.

Looking Back to Look Forwards

Investigating the past to envision the future falls under the 'shared history', macrohistory and back-casting methods used in the mapping, timing and transforming pillars (Inayatullah, 2008, 2013b, 2017). Although in Inayatullah's organisational work, an 'issue' is primarily investigated, a non-problematic focus may better assist in inspiring agency in youth. Nevertheless, historical methods can assist in encouraging agency by revealing that the present is a construction brought about by previous actions. This may inspire youth that their present actions can create their preferred future, dispelling the notion of a 'used future' as detailed in Chapter 5 (Palmer, 2014; Watson, 2009).

Although Inayatullah's more recent literature on the use of macrohistory investigates the different paradigms in which time is viewed (Inayatullah, 2017), the dominant discourse of viewing time as linear may be most appropriate when working with youth. Time is also discussed as a 'cyclical' or 'folded' temporal assumption, reflecting the cycles occurring in the natural world, for example the seasons (Bussey, 2017). Although bringing awareness of a non-anthropocentric worldview may be useful in building a sense of awe and wonder that can result in pro-social behaviour (Piff, Dietze, Feinberg, Stancato, & Keltner, 2015), it could result in youth absolving responsibility. It may be comforting to believe that there is something bigger controlling the future and that current experiences are part of a cyclical process. This is reflected by many climate change sceptics despite the overwhelming evidence otherwise (Mitchell et al., 2016).

The macrohistory method analyses historical patterns and trends, which can be used in back-casting to proposing the necessary steps to create a preferred future. However, the complexity of grand historical narratives may prevent connections being made between these patterns and the creation of alternative futures by individuals. Alternatively, the use of life stories may reveal hidden components of historical accounts, and bring to light aspects that may not be considered important in the grander histories (Palmer, 2014). These aspects may not be accountable by conventional measures, yet have immense importance on those individuals' or communities' wellbeing. Life stories are the key method proposed for getting young people engaged in R&S, and convincing them that they 'can make a difference'(The Jane Goodall Institute, 2017b, p. 3). Life stories of Jane Goodall, Martin Luther King and Malala Yousafzai are offered, as stories of 'compassionate leaders' - a narrative expanded upon later in this chapter. All feature obstacles that the individuals overcame to follow their chosen paths. These 'obstacles' may have actually been the easier path, analogous to that of their 'used future' yet the individuals followed an alternative route to create their chosen futures (Inayatullah, 2008). An historical examination of an individual's biographical story uses the past to look forward, but may provide more relevance and meaning, particularly for youth, than wider historical accounts. Given the range of countries in which R&S is present, the different JGI chapters may want to consider expanding their repertoire of life stories to include those providing more relevance to those youth. For example, the story of a young British woman arriving during colonial times to observe chimpanzees is unlikely to provide relevance for students in Tanzania, the subject of German and British colonial rule from 1880-1961 (Barany, 2012). Featured throughout the toolkit are 'family connection' boxes, with suggested activities to assist in relating the material presented to members' families, encouraging members to seek inspiration in those around them, rather than viewing 'change-makers' as celebrities. For example, the toolkit invites members to 'share stories about the people in your family and the choices they have made to help their community' (p.2). It is important to recognise the language used, in particular that of 'choice' as it emphasises that there were alternative futures that person could have followed but in making a choice, they acted purposefully to construct their future.

The use of the stories of 'change-makers' is in-keeping with meso-timing, which also appears in the timing pillar (Inayatullah, 2013b). Jenny Brice and Patricia Kelly's organisational theories of change are cited, proposing that rather than intending to change an entire organisation, one should aim for the key champions who can constitute as little as 10% but still affect organisation-wide change (Inayatullah, 2013b, p. 49). As mentioned in Chapter 5, these theories could apply to a school R&S group, if the members constitute 10% of the population, they can be social change-makers. Furthermore, a school does not stand alone therefore the ripple effect that this could have towards parents, extended families and the community around the school has great potential. Inspiring young people through the use of life-stories of other change-makers may empower them with the confidence that their projects can make a difference, even when the extent of the problem seems vast (Hudspeth, 2017). Within the timing pillar, Inayatullah (2013) proposes that recognising patterns is critical to understanding the 'shape of time' in relation to the future. One such pattern he has recognised is that change is brought about by a creative minority; those that 'innovate' not 'imitate'. Another pattern describes 'hinge periods in human history' with Inayatullah (2013, p.48) proposing that we are currently in a hinge period, where 'the action of a few can make a dramatic difference'.

Disowning the notion of a used future, and owning the creation of alternative futures, are key concepts that should be adopted by all in working towards sustainable futures. Youth can be empowered to do so through realising that the present is a creation of the past, through examination of historical accounts of positive change.
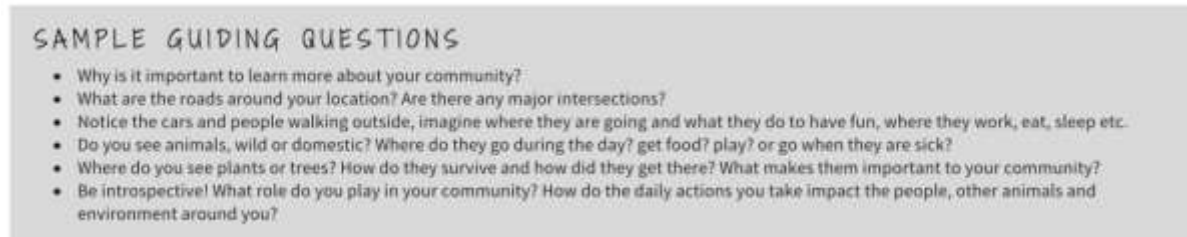
Questioning Assumptions

Figure 7: An example of the guiding questions provided in the R&S Formula Toolkit (The Jane Goodall Institute, 2017b) p.8

Questioning is one of the three key methods for future envisioning. In developing the framework used in this study the method of questioning was combined with concepts in the *timing* and *deepening* pillars to result in the core concept of *questioning assumptions*. 'Assumption', which can be regarded as accepted truths, may be better replaced with 'everything' given obtaining concrete proof in a complex world is problematic. Encouraging adolescents to question everything may be challenging for students whose education focuses on cognitive abilities such as fact-remembering, rather than the ability to process emotions. Adolescents are in the process of constructing their self-identity, craving for belonging and searching for something to hold onto (Allen & Bowles, 2012; Brunstad, 2002). Ripping this out from underneath them would be more likely to shake their foundations than drive them to action. Therefore, an age appropriate method for encouraging young people's ability to critically evaluate their past, present and future must be used.

R&S uses community mapping as a method for questioning assumptions (The Jane Goodall Institute, 2017b, pp. 8-11). Mapping is also the title of the first pillar of futures, which creates an 'environmental scan' of the future (Inayatullah, 2017). However, the method used by Inayatullah, often combined with CLA, looks systemically at the past, present and future whereas community mapping takes a local approach (suggesting a radius of two to five miles), focusing on the present. As Goodall herself argues, thinking 'big picture' may be the driver of inaction:

> One thing you hear all the time is 'think globally, act locally'. And I say no, twist it around, because quite honestly, if you think globally you get depressed with the harm we're inflicting. Act locally about something you are passionate about
>
> Jane Goodall, Padilla (2019)

This mirrors the findings of Hicks and Holden (2007), who's research with adolescents found they were generally more negative when asked about environmental problems in a global context. Therefore, the findings of Johnson and Johnson-Pynn (2007) showing East African R&S members improved their knowledge of local but not global environmental issues could potentially be a positive driver of their club engagement. This does not mean students will

not develop a wider worldview, but focusing on a local environment may act as a stepping stone for engagement with global contexts (Stewart, 2002).

At first it may seem that community mapping uses questioning to provide understanding at only the litany level of CLA, a deeper examination of the toolkit and other data sources revealed other methods that ensure students developed a deeper view of the immediate and wider world around them. These methods include challenging a key narrative that underpins many adults' perceptions of the world, and providing exposure to alternative worldviews and cultures through the global nature of the program. These methods are not necessarily explicit; they do not challenge or confront current views that may be held, but provide the opportunity to view through a different lens.

The principal assumption questioned is the human-animal spatial relation, which may assist in disrupting the 'anthropomorphic distinction of animals and humans, and nature and culture' (Matthews, 2012, p. 127). This is a clear narrative throughout the toolkit, with the first page including the word 'other' in the goal of R&S to 'make the world a better place for people, **other** animals, and the environment'. The way in which we speak and name ourselves and others may be a contribution to the 'escalating annihilation of non-human species'(Matthews, 2012, p. 127) . Language is also considered in futures thinking, 'Insofar as language does not just describe but constitutes reality' (Inayatullah et al., 2016, p. 110). The anthropocentric narrative is disrupted in subtle nuances throughout the toolkit, including within Goodall's biography (see p.3), 'As a young scientist, the other scientists didn't respect Dr. Jane's work at first because she had given the chimpanzees names, and discussed their personality which scientists at the time believe only human beings could have.' Furthermore, in the community mapping process, explicit attention is drawn to the animal and environmental aspects of the community, as well as those of the humans. Sample questions invite members to think more deeply about the animals present, for example 'Where do they [animals] go during the day. Where do they get food? Or go when they are sick?' (The Jane Goodall Institute, 2017b, p. 8). However, the questions relating to the environment, including plants and trees, focus on their use as a resource rather than their intrinsic value. Although the process of mapping categorises assets into human, animal and environmental identities, the final reflective step (p. 17-18) brings to attention that some of the assets may serve more than just one category, recognising the interconnected relational nature of these aspects. The reflection questions start with a focus on the present, similarly to the futures pillars, although history is omitted. The future is then introduced with the question 'What things could be improved for your community to make it a better habitat for people/animals/environmental habitat?'.

R&S also provides opportunities for members to widen their perspectives through interaction with other people in their local community through collaborative partnerships, other members from similar backgrounds through the national youth leadership council, and with members from different backgrounds through social media channels, twinning opportunities and international summits.

In addition to a local focus, R&S adapts the concept of questioning assumptions for young people by starting with cognitive questioning (through observations of their local community), followed by encouraging deeper critical thought (for example, questioning 'how

do you feel about your community?'p.16). This reverses the order proposed by Inayatullah in the transformation pillar, which starts with envisioning through creative processes and then uses cognitive and critical thought to achieve those steps through the process of back-casting. This may be a scaffolding process, aligning with Piaget's theory of cognitive development to progress from a concrete to abstract domains, considering the toolkit's design for use across primary and secondary settings (O'Donnell, Reeve, & Smith, 2009).

Use of Narrative(s) to Support Vision

> *How do you get somebody to realise that we actually are destroying the planet? I think I always do it through stories, never through direct confrontation. Because if you directly confront somebody who's, you know, thinking polar opposite to you… they don't really listen.*
>
> - Jane Goodall in Padilla (2019)

The use of narratives and metaphors in assisting futures thinking is well documented in recent literature (Inayatullah et al., 2016; Milojević & Inayatullah, 2015; Watson, 2009). The R&S material examined through this study found these techniques to be the strongest aspect of futures thinking used by the program. The title of R&S itself is a metaphor for the ability of young people to create change through implementing small actions:

> Roots creep underground everywhere and make a firm foundation. Shoots seem very weak, but to reach the light they can break open brick walls. Hundreds and thousands of roots and shoots, hundreds and thousands of young people around the world can break through these walls.
>
> (The Jane Goodall Institute, 2017b, p. 1)

Metaphors have the ability to disrupt current thinking and assumptions (Inayatullah et al., 2016). The above metaphor challenges the common view of youth as a problem in need of 'fixing' (Gidley & Inayatullah, 2002). It also challenges the assumption that change only comes from an institutional level, using the analogy of young people as roots and shoots, and the human-inflicted crises the planet currently faces as the brick wall (Inayatullah, 2013b, p. 49).

R&S also challenges the current data-driven pragmatism that underpins program management in Western societies. Summarising the program was challenging, with different reports of numbers of members, active groups, and countries that R&S is present in. The greatest clarification was drawn from an interview with the current Executive Director of JGI, Carlos Drews and the Community Engagement Specialist, Ashley Sullivan. The interview addresses the new JGI strategy launch identifying the two pillars of their work; chimpanzee conservation and:

> Carlos: "The other [pillar] is this effort around empowering youth, we call it the Roots and Shoots program. It is worldwide, it had presences already in 100 countries or so, and currently operates definitely in 50. It's kind of these groups pop up, mushroom and multiply organically. Some of them disappear…"
>
> Ashley: "…It's the best kind of fungus."

Carlos Drews: "But it's definitely there to stay" (The Jane Goodall Institute, 2019b)

It is intriguing that even the Institute itself is not clear, which makes describing and assessing the program's impact challenging. However, it may be that telling a narrative of what R&S has done, currently does, and will do can create its reality and continued growth, (Inayatullah et al., 2016). It is fitting therefore, that R&S is described as more of a philosophy than a structured program (Macht, 2016). However, it may prevent the program's uptake in traditional educational settings, where modernist thinking focuses on only what can be measured. Perhaps it is through the use of telling narratives that this norm can be disrupted. It should possibly be more clearly outlined that this is what the program is intending to do such that rather than being seen as a weakness, it is recognised as a strength. The toolkit provides the structure of a 'four step formula' to provide familiarity for educators accustomed to a process that can be followed, but continually refers to 'stories of Roots and Shoots campaigns' (p. 4). Members are encouraged to share their campaign stories through websites and social media, providing stories of inspiration that are included on the 'Tapestry of Hope' – an interactive map depicting global R&S projects, which again uses a metaphor to encourage 'more young people to weave their own communities into this growing tapestry' (The Jane Goodall Institute, 2019c). The power of R&S could lie in these individual stories, that have the potential to collectively provide a narrative of hope and optimism.

Although Chapter 3 suggested that the concept of compassionate leadership appears to lack a theoretical basis, with regard to a futures perspective it may be better to regard this concept as a narrative; a preferred future with leaders that demonstrate compassion towards animals, people and the environment. McLain notes that it is the identity rather than the underlying traits, that are important to R&S members. In the final step of the four-step model, 'Celebrate', students reflect on their learning, providing:

> "…an opportunity for the kids to make meaning out of their experiences. This involves forming a narrative. Constructing a story about what their experience was like. If their experience in the resulting narrative is powerful enough, it has a chance of impacting their identity narratives for who they think they are."
>
> McLain in Martinez et al. (2016)

Therefore, although research on the development of compassionate leadership in youth may assist the program, it may be that the narrative alone is sufficient in empowering students to act in ways that promote sustainability for all.

Envisioning Alternatives, Including a Preferred Future

The three methods suggested for future envisioning are questioning, analytic scenarios and creative visualisation (Inayatullah, 2013b). However, it is the above narrative of a world where compassionate leaders are making the decisions that guide the future, that enables R&S to envision an alternative future (Inayatullah, 2013b; McPhearson, Iwaniec, & Bai, 2016; Milojević & Inayatullah, 2015). As the first page of the toolkit states 'Our world needs a different type of leader, one guided by compassionate, educated thought, who will make

good decisions for our planet'. Although *Looking back to look forwards* has been demonstrated as a concept used in the toolkit, it is positively framed, focusing on life stories of compassionate leaders rather than the negative attributes of current world leaders. The toolkit also employs questioning but avoids an issue focus. For example, members are guided to envision alternative futures with 'What things could be improved for your community?' p. 9. Even when the word 'issue' is used (notedly not until p. 8 of the toolkit) it is followed by the sample guiding question 'Do you believe this issue will have a positive or negative impact on your community?'.

Although scenarios are a 'tool par excellence' in envisioning futures (Inayatullah, 2013b) p. 54, they only occur explicitly under the interview questions for community collaborators in the toolkit, as shown in Figure 8:

COMMUNITY COLLABORATORS: EXAMPLE INTERVIEW QUESTIONS

- What is your name and what is your role in your community? (Occupation, business, volunteer, resident etc.)
- How does (state the issue addressed in your campaign) impact the community?
- What would you like to see changed?

- How do you think those changes could benefit the community?
- What can people do to help make those changes?
- What do you think will happen if we don't do anything?
- Is there anything else you would like to share?

Figure 8: The suggested interview questions for community collaborators as provided in the toolkit, p.16

The penultimate question probes the collaborator to envision a status-quo scenario. Although status-quo scenarios are used in organisational settings, they may promulgate pessimism in youth. This may be why R&S concentrates on the *preferred* future rather than the *probable* or *plausible*. More creative processes, such as creative visualisation (see Appendix D) may assist members in drawing themselves away from the past or the present, to think innovatively regarding alternative futures.

In the final transformation pillar, the process of envisioning is coupled with back-casting, a process to identify steps required to get to the preferred future. The third step of the toolkit: *Take Action,* provides a framework for this, suggesting members 'make a backwards timeline', identify short- and long-term goals, what challenges they may face, and steps that could overcome them (The Jane Goodall Institute, 2017b, pp. 12-16). In-keeping with the transformation pillar, this occurs after the vision of the change members wish to create in their local community has been located.

The proposed outcome of community mapping is that members should 'see aspects of their community that they did not see before', through seeking multiple perspectives (p.19). However, ways in which multiple perspectives can be integrated are not provided. For example, the toolkit recognises that the group may identify multiple campaign options. The supplementary materials (p. 24) provide three methods to narrow the choice down to one. Although all these methods are participatory and democratic, only one project will be chosen, therefore the value in alternative ideas may be discarded, or have to wait for another campaign. R&S could introduce similar tools to the transcend method, used in the final transformation pillar, to achieve a 'win-win' situation when two different visions are located (Inayatullah, 2013b, p. 60).

The Narrative Vision: A Compassionate Future for All

The purpose of this chapter was to orientate R&S with a futures perspective, using the four core concepts developed in Chapter 5 in order to determine how the program may assist young people to envision and act upon sustainable futures. As argued here, the toolkit provides a framework that incorporates all core concepts, with the use of narratives identified as the strongest futures tool for envisioning an alternative future. R&S members are motivated to act by focusing on only their local community, to encourage optimism and hope through shorter-term, localised action that is relevant and meaningful to them. A structure for this is provided through community mapping, coupled with back-casting. The bigger picture painted is the narrative of a world with leaders demonstrating compassion in a holistic way towards all living things. Therefore, although the four-step formula does not stop and paint an image of a particular future, it instils a story of a future that focusses on an affective value: compassion. If programs such as R&S can develop youth's confidence in their ability and agency as change-makers who are compassionate in a holistic sense; that is towards people, animals and environment, it has the potential to disrupt many of the unsustainable practices witnessed at present.

Chapter 7: Conclusion

The ecological and social crises that were once of the future are increasingly upon us now, as we witness the devastating effects of climate change (Mitchell et al., 2016). The timescale in which there is an opportunity to act to decelerate the impact of human activity is shortening. However, perhaps due to the uncertainty and fear that thinking about the future induces, still very little attention is paid towards it. When it is, it generally adopts two images; a dystopian future or one of high-tech science-fusion (Liu & Lin, 2018). Whilst the former may lead to hopelessness, the latter may comfort us that the future is a problem for another entity to 'fix'; neither are likely to induce action. As Wals et al. (2017, p. 73) state: 'Hope and possibility tend to bring about more change than fear and fatalism which tends to keep things the way they are'. However, others argue that hope is not enough as humanities 'powers of optimism are, perhaps, only matched by its powers of self-deception' (Slaughter, 2002, p. 177). Coupled with the industrial Western worldview of short-term thinking, unsustainability will perpetuate. What is needed is hope, agency, and a long-term vision of a sustainable, preferred future.

R&S envisions a positive, sustainable future for youth through the narrative of members demonstrating holistic compassion towards animals, people and the environment. Some may argue this is paradoxical to the idea of youth agency as it appears to declare what their preferred future is. However, R&S does not provide an exact image of what the future is, but rather a value that underpins their present and future actions. Members can decide how they wish to enact their future when choosing their projects. Through this process, and the interaction with others from different backgrounds, youth recognise the importance of the relational nature of the human and non-human world. These two foundations – a values based and integral approach, offer a refreshing contrast to conventional education that focuses on accruing cognitive knowledge in discrete disciplines. Although R&S can be critiqued for lacking the structured curriculum expected in contemporary education, it should be seen as an advantage. The philosophical approach, underpinned by demonstrating holistic compassion, allows the space and flexibility for youth to develop their own innovative vision of their local future, and empowers them to act upon it by focusing on local action. Sharing the local impacts that R&S members are having worldwide brings their actions under a larger umbrella that tells a motivating narrative of young people bringing about global change for a more sustainable future. The challenge for R&S's future is to persuade others to recognise the value in 'values' and to be comfortable funding a program that may not be able to demonstrate outcomes through a numerical value, but an affective one. To do this, it is necessary to disrupt the valuing of certain knowledges, and recognise the importance of youth voice in creating the future they want.

Appendices
Appendix A – The "5 Cs" of Positive Youth Development

The "5 Cs" of Positive Youth Development[6,7]	
"C"	**Definition**
Competence:	Positive view of one's actions in specific areas, including social, academic, cognitive, health, and vocational. Social competence refers to interpersonal skills (such as conflict resolution). Cognitive competence refers to cognitive abilities (e.g., decision making). Academic competence refers to school performance as shown, in part, by school grades, attendance, and test scores. Health competence involves using nutrition, exercise, and rest to keep oneself fit. Vocational competence involves work habits and explorations of career choices.
Confidence:	An internal sense of overall positive self-worth and self-efficacy.
Connection:	Positive bonds with people and institutions that are reflected in exchanges between the individual and his or her peers, family, school, and community in which both parties contribute to the relationship.
Character:	Respect for societal and cultural norms, possession of standards for correct behaviors, a sense of right and wrong (morality), and integrity.
Caring/Compassion:	A sense of sympathy and empathy for others.

(Zarrett & Lerner, 2008, p. 2)

(The Jane Goodall Institute, 2019a)

Appendix C: The 5 Stages of Service Learning

1. Investigation: Students start by identifying resources available in their community. This identification provides a purpose to their learning and therefore motivation.
2. Preparation and Planning: Students use critical thinking skills to identify what skills are required and explore research topics in the community around them.
3. Action: This can include direct or indirect action, advocacy and research. Provides value, purpose and meaning to what students have learnt in the first two stages.
4. Reflection: Students consider how the knowledge and skills they have gained relate to their own lives. This time offers them an opportunity to 'pause' and explore the impact of what they have learnt, and how it may affect their future actions. As (Wals et al., 2017) state, the fast-paced world does not provide enough emphasis on this important step.
5. Demonstration: This can include presentations, posters, multi-media e.g. YouTube video. Students make explicit what they have learnt through their community involvement. It offers an opportunity for students to use their metacognitive skills to analyse what they have learnt and how they have learnt it.

Adapted from Kaye (2010)

'Leaders from the playground to the boardroom hold the key to shaping the world. To make the world a better place, we have to change the way we make decisions. We need leaders who care about how their actions affect the world we all share.

Roots & Shoots empowers young people (like YOU) to become the type of leaders who will make right choices to build a better world. Through the program, youth lead local change through service while developing skills and traits of compassionate leaders.'

(The Jane Goodall Institute, 2018b)

'In this process, individuals are asked to close their eyes and enter a restful state. From there, in their mind's eye, they take steps to a hedge or wall (the number of steps is based on how many years into the future they wish to go). Over the hedge is the preferred future. They walk into that future. The facilitator asks them for details such as: Who is there? What does the future look like? What can you see, smell, hear, touch, taste? This exercise articulates the future from the right brain — it is more visual — accessing the unconscious.'

(Inayatullah, 2013b, p. 58)

Bibliography

Allen, K. A., & Bowles, T. (2012). Belonging as a Guiding Principle in the Education of Adolescents. *Australian Journal of Educational & Developmental Psychology, 12*, 108-119.

Anglin, A. E., Johnson-Pynn, J. S., & Johnson, L. R. (2012). Ethnic Identity and Civic Attitudes in Latino and Caucasian Youth. *Journal of Youth Studies, 15*(5), 621-643. doi:10.1080/13676261.2012.663887

Arnold, M. E., & Silliman, B. (2017). From Theory to Practice: A Critical Review of Positive Youth Development Program Frameworks. *Journal of Youth Development, 12*(2), 1-20.

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall

Barany, Z. (2012). After Colonial Rule in Africa, Ghana, Tanzania, and Botswana. In *The Soldier and the Changing State* (pp. 275-302): Princeton University Press.

Bateman, D. (2009). *Transforming Teachers' Temporalities - Futures in Curriculum Practices.* (Doctoral Dissertation), Australian Catholic University, Retrieved from http://www.metafuture.org/pdf/debrabateman.pdf

Bateman, D. (2012). Transforming teachers' temporalities: Futures in an Australian classroom. *Futures, 44*(1), 14-23.

Bateman, D. (2015). Ethical dilemmas: Teaching futures in schools. *Futures, 71*, 122-131. doi:10.1016/j.futures.2014.10.001

Bengtsson, H., Söderström, M., & Terjestam, Y. (2016). The Structure and Development of Dispositional Compassion in Early Adolescence. *The Journal of Early Adolescence, 36*(6), 840-873. doi:10.1177/0272431615594461

Bornstein, M. H., & Arterberry, M. E. (2010). The development of object categorization in young children: hierarchical inclusiveness, age, perceptual attribute, and group versus individual analyses. *Developmental psychology, 46*(2), 350-365. doi:10.1037/a0018411

Boulding, E., & Boulding, K. (1995). *The Future: Images and Processes*. London: Sage.

Branchetti, L., Cutler, M., Laherto, A., Levrini, O., Palmgren, E. K., Tasquier, G., & Wilson, C. (2018). The I SEE project: An approach to futurize STEM education. *Visions for Sustainability*(9).

Brunstad, P. O. (2002). Longing for belonging: Youth culture in Norway. In *Youth futures: Comparative research and transformative visions* (pp. 143-154). London: Praeger

Bussey, M. (2017). Time's Calling: Time, Timing, and Transformation in Futures Work. *World Futures Review, 9*(4), 236-247. doi:10.1177/1946756717697335

Carbonell, J., Sánchez-Esguevillas, A., & Carro, B. (2015). Assessing emerging issues. The external and internal approach. *Futures, 73*, 12-21. doi:10.1016/j.futures.2015.07.015

Conklin, H. G. (2008). Modeling Compassion in Critical, Justice-Oriented Teacher Education. *Harvard Educational Review, 78*(4), 652-674. doi:10.17763/haer.78.4.j80j17683q870564

Corcoran, P., Weakland, J., & Wals, A. (2017). *Envisioning futures for environmental and sustainability education*. Wageningen: Wageningen Academic Publishers.

Deringer, S. A. (2017). Mindful Place-Based Education: Mapping the Literature. *Journal of Experiential Education, 40*(4), 333-348. doi:10.1177/1053825917716694

Drescher, C. (2011). *Positive youth development among Latino/a youth in a service learning program.* (Masters Thesis Mas), The University of Mississippi, ProQuest: Ann Arbor, Mississippi.

Eccles, J. S., & Gootman, J. A. (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press, Institute of Medicine

Ekman, P. (2009). *Emotional awareness: Overcoming obstacles to psychological balance and compassion*. New York, NY: Holt.

Eyler, J. (2002). Reflection: Linking service and learning—Linking students and communities. *Journal of social issues, 58*(3), 517-534.

Freire, P. (1972). *Pedagogy of the Oppressed*. Harmondsworth, UK: Penguin Books

Galtung, J. (1982). Schooling, education, and the future. *Didakometry & Sociometry*.

Gibbs, P. (2017). *The Pedagogy of Compassion at the Heart of Higher Education*. Cham: Springer.

Gidley, J. M. (2001). An Intervention Targetting Hopelessness in Adolescents by Promoting Positive Future Images. *Journal of Psychologists and Counsellors in Schools, 11*, 51-64.

Gidley, J. M. (2010). Holistic education and visions of rehumanized futures. *RoSE–Research on Steiner Education, 1*(2).

Gidley, J. M. (2016). *Postformal Education: A Philosophy for Complex Futures* (Vol. 3). Switzerland: Springer International Publishing.

Gidley, J. M. (2017). The evolving scholarship of futures studies. In *The Future: A Very Short Introduction*: Oxford University Press.

Gidley, J. M., & Hampson, G. (2005). The evolution of futures in school education. *Futures, 37*(4), 255-271.

Gidley, J. M., & Inayatullah, S. (2002). *Youth futures: Comparative research and transformative visions*. Westport, CT: Praeger.

Gilbert, P. (2017). *Compassion: Concepts, research and applications*: Taylor & Francis.

Gonzalez, F. (2012). Possible Futures and the Future We Want. In *There's a Future: Visions for a Better World* (pp. 7-36). Spain: BBVA.

Goodall, J. (1998). Learning from the Chimpanzees: A Message Humans Can Understand. *Science, 282*(5397), 2184-2185.

Goodall, J. (2000). *In the shadow of man*. Houghton, UK: Mifflin Harcourt.

Goodall, J., & Berman, P. (1999). *Reason for hope: A spiritual journey*: Grand Central Publishing.

Goodall, J., & van Lawick, H. (1963). My life with the wild chimpanzees. *National Geographic, 124*, 272-308.

Gould, S. (2008). *Creating alternative community futures: A community futures tragedy.* (PhD), University of the Sunshine Coast, Sippy Downs, Queensland.

Haigh, M. (2016). Fostering deeper critical inquiry with causal layered analysis. *Journal of Geography in Higher Education, 40*(2), 1-18. doi:10.1080/03098265.2016.1141185

Hari, J. (2018). *Lost connections: Uncovering the real causes of depression–and the unexpected solutions*: Bloomsbury Publishing USA.

Hayward, P., Voros, J., & Morrow, R. (2012). Foresight education in Australia—Time for a hybrid model? *Futures, 44*(2), 181-188. doi:10.1016/j.futures.2011.09.011

Head, S. (2002). I Don't Care about the Future (If I Can't Influence it). In J. Gidley & S. Inayatullah (Eds.), *Youth futures: Comparative research and transformative visions* (pp. 209-216). Westport, CT Praeger.

Hernandez, T., & Kraver, J. (2018). Identity Based Education. Retrieved from https://www.identitybaseded.org/

Hicks, D. (1994). *Educating for the future*. London: World Wide Fund for Nature.

Hicks, D. (2012). The future only arrives when things look dangerous: Reflections on futures education in the UK. *Futures, 44*(1), 4. doi:10.1016/j.futures.2011.08.002

Hicks, D., & Gidley, J. M. (2012). Futures education: Case studies, theories and transformative speculations. *Futures, 44*(1), 1-3. doi:10.1016/j.futures.2011.08.001

Hicks, D., & Holden, C. (2007). Remembering the Future: What Do Children Think? *Environmental Education Research, 13*(4), 501-512. doi:10.1080/13504620701581596

Hudspeth, T. (2017). Reimagining sustainability education to address Anthropocene challenges: envisioning, storytelling, community scenario planning. In P. Corcoran, J. Weakland, & A. Wals (Eds.), *Envisioning Futures for Environmental and Sustainability Education* (pp. 407-418). Wageningen: Wageningen Academic Publishers.

Inayatullah, S. (1998). Causal layered analysis: Poststructuralism as method. *Futures, 30*(8), 815-829. doi:10.1016/S0016-3287(98)00086-X

Inayatullah, S. (2002). Youth dissent: Multiple perspectives on youth futures. In J. Gidley & S. Inayatullah (Eds.), *Youth futures: Comparative research and transformative visions* (pp. 19-30). Westport, CT: Praeger.

Inayatullah, S. (2008). Six pillars: futures thinking for transforming. *Foresight, 10*(1), 4-21. doi:10.1108/14636680810855991

Inayatullah, S. (Producer). (2013a). Causal Layered Analysis: Sohail Inayatullah at TEDxNoosa. [Video] Retrieved from https://www.youtube.com/watch?v=ImWDmFPfifI

Inayatullah, S. (2013b). Futures studies: theories and methods. *There's a future: Visions for a Better World, BBVA, Madrid*, 36-66.

Inayatullah, S. (2016). *Teaching and Learning in Disruptive Futures: Automation, Universal Basic Income, and Our Jobless Futures.* Paper presented at the Queensland Association of State School Principals, Brisbane, Australia.

Inayatullah, S. (2017). Macrohistory and Timing the Future as Practice. *World Futures Review, 9*(1), 26-33. doi:10.1177/1946756716686788

Inayatullah, S., Izgarjan, A., Kuusi, O., & Minkkinen, M. (2016). Metaphors in futures research. *Futures, 84*, 109-114. doi:10.1016/j.futures.2016.04.004

Jackson, C., Burchsted, S., & Itzkan, S. (2002). Learning with an Active Voice: Children and Youth Creating Preferred Futures. In J. Gidley & S. Inayatullah (Eds.), *Youth futures: Comparative research and transformative visions* (pp. 197-208). Westport, Connecticut: Praeger.

Johnson, L. R., & Johnson-Pynn, J. S. (2007). Cultivating compassion and youth action around the globe: A preliminary report on Jane Goodall's Roots & Shoots program. *Journal of Youth Development, 2*(2), 26-41.

Johnson, L. R., Johnson-Pynn, J. S., Drescher, C. F., Sackey, E., & Assenga, S. (2018). Predicting Civic Competencies Among East African Youth and Emerging Adults: Report on the Swahili General Self-Efficacy Scale. *Emerging Adulthood*, 216769681876808.

Johnson, L. R., Johnson-Pynn, J. S., & Pynn, T. M. (2007). Youth Civic Engagement in China: Results From a Program Promoting Environmental Activism. *Journal of adolescent research, 22*(4), 355-386. doi:10.1177/0743558407301914

Johnson, L. R., Johnson-Pynn, J. S., Sweeney, S. S., & Williams, C. T. (2009). Youth Civic Action: Going Green, Going Global. *Ecopsychology, 1*(2), 75-84. doi:10.1089/eco.2009.0007

Johnson, L. R., Kim, E. H., Johnson-Pynn, J. S., Schulenberg, S. E., Balagaye, H., & Lugumya, D. (2012). Ethnic Identity, Self-Efficacy, and Intercultural Attitudes in East African and U.S. Youth. *Journal of adolescent research, 27*(2), 256-289. doi:10.1177/0743558411412955

Johnson-Pynn, J. S., & Johnson, L. R. (2005). Successes and Challenges in East African Conservation Education. *Journal of Environmental Education, 36*(2), 25. doi:10.3200/JOEE.36.2.25-39

Johnson-Pynn, J. S., & Johnson, L. R. (2010). Exploring environmental education for East African youth: Do program contexts matter? *Children Youth and Environments, 20*(1), 123-151.

Johnson-Pynn, J. S., & Johnson, L. R. (2013). Toward Inclusivity, Adaptation, and Collective Action in Ecopsychology: Lessons from East Africa. *Ecopsychology, 5*(4), 233-236. doi:10.1089/eco.2013.0095

Kaye, C. B. (2010). *The Complete Guide to Service Learning: Proven, Practical Ways to Engage Students in Civic Responsibility, Academic Curriculum and Social Action* (2nd ed.). Minneapolis, MN: Free Spirit Publishing Inc.

Kia-Keating, M., Dowdy, E., Morgan, M. L., & Noam, G. G. (2011). Protecting and promoting: An integrative conceptual model for healthy development of adolescents. *Journal of Adolescent Health, 48*(3), 220-228.

Kirby, J. N., Tellegen, C. L., & Steindl, S. R. (2017). A Meta-Analysis of Compassion-Based Interventions: Current State of Knowledge and Future Directions. *Behavior Therapy, 48*(6), 778-792. doi:10.1016/j.beth.2017.06.003

Koutselini, M. (2017). The Reflective Paradigm in Higher Education and Research: Compassion in Communities of Learning. In P. Gibbs (Ed.), *The Pedagogy of Compassion at the Heart of Higher Education* (pp. 203-212). Cham: Springer International Publishing.

Lerner, R. M., Fisher, C. B., & Weinberg, R. A. (2000). Toward a Science for and of the People: Promoting Civil Society through the Application of Developmental Science. *Child development, 71*(1), 11-20. doi:10.1111/1467-8624.00113

Lerner, R. M., Lerner, J. V., Bowers, E. P., & Geldhof, G. J. (2015). *Positive youth development and relational-developmental-systems* (W. F. Overton & P. C. Molenaar Eds. 7th ed. Vol. 1). Hoboken, N.J. : Wiley.

Liu, S.-C., & Lin, H.-S. (2018). Envisioning Preferred Environmental Futures: Exploring Relationships between Future-Related Views and Environmental Attitudes. *Environmental Education Research, 24*(1), 80-96. doi:10.1080/13504622.2016.1180504

Lloyd, A., Truong, S., & Gray, T. (2018). Place-based outdoor learning: more than a drag and drop approach. *Journal of Outdoor and Environmental Education, 21*(1), 45-60. doi:10.1007/s42322-017-0002-5

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder*. USA: Algonquin Books.

Macdonald, D., Enright, E., & McCuaig, L. (2018). Re-visioning the Australian curriculum for health and physical education In H. Lawson (Ed.), *Redesigning physical education: An equity agenda in which every child matters*: Routledge

Victoria Kinsey-West: 57

Macht, K. G. (2016). *Roots & Shoots Remembered: A qualitative study of the influence of childhood place-based experiences on the lives of young adults.* (Doctoral Thesis), Montclair State University, USA.

Marien, M. (2010). Futures-thinking and identity: Why "Futures Studies" is not a field, discipline, or discourse: a response to Ziauddin Sardar's 'the namesake'. *Futures, 42*(3), 190-194. doi:10.1016/j.futures.2009.11.003

Martinek, T., & Schilling, T. (2003). Developing Compassionate Leadership in Underserved Youths. *Journal of Physical Education, Recreation & Dance, 74*(5), 33-39. doi:10.1080/07303084.2003.10608483

Martinez, H., Goodall, J., McLain, B., & Viera-Orr, E. (Producer). (2016, 24th April 2019). Re-visiting the Compassionate Leadership Identity.

Compassionate Leadership Through Service Learning with Jane Goodall and Roots & Shoots. [Video] Retrieved from https://www.coursera.org/lecture/compassionate-leadership-jane-goodall/revisiting-the-compassionate-leadership-identity-mjIIf

Matthews, J. (2011). Hybrid pedagogies for sustainability education. *Review of Education, Pedagogy, and Cultural Studies, 33*(3), 260-277.

Matthews, J. (2012). Compassion, Geography and the Question of the Animal. *Environmental Values, 21*(2), 125-142.

McPhearson, T., Iwaniec, D. M., & Bai, X. (2016). Positive visions for guiding urban transformations toward sustainable futures. *Current Opinion in Environmental Sustainability, 22*, 33-40. doi:10.1016/j.cosust.2017.04.004

Milojević, I., & Inayatullah, S. (2015). Narrative foresight. *Futures, 73*(C), 151-162. doi:10.1016/j.futures.2015.08.007

Mitchell, D., James, R., Forster, P. M., Betts, R. A., Shiogama, H., & Allen, M. (2016). Realizing the impacts of a 1.5 C warmer world. *Nature Climate Change, 6*(8), 735.

Morawiak, A., Mrozinski, B., Gutral, J., Cypryańska, M., & Nezlek, J. B. (2018). Self-Esteem Mediates Relationships between Self-Concept Clarity and Perceptions of the Future. *Journal of Education Culture and Society, 9*(1), 99-108.

Nagel, M. (2005). Constructing Apathy: How Environmentalism and Environmental Education May Be Fostering 'Learned Hopelessness' in Children. *Australian Journal of Environmental Education, 21*, 71-80.

Nielsen, J. A., Zielinski, B. A., Ferguson, M. A., Lainhart, J. E., & Anderson, J. S. (2013). An evaluation of the left-brain vs. right-brain hypothesis with resting state functional connectivity magnetic resonance imaging. *PLoS ONE, 8*(8), e71275. doi:10.1371/journal.pone.0071275

O'Donnell, A. M., Reeve, J., & Smith, J. K. (2009). *Educational Pyschology: Reflection for action* (2nd ed.). Hoboken: John Wiley & Sons.

Oxford University Press. (Ed.) (2019) Futurology: 'The activity of predicting the state of the world at some future time, by extrapolating from present trends. Mainly a pseudo-science, given the complexities of social, political, economic, technological, and natural factors. See chaos.'.

Padilla, J. (Producer). (2019). Dr Jane Goodall's Advice for Getting Others to Care About the Environment [Video] Retrieved from https://www.facebook.com/NowThisHer/videos/350341739020842/?v=350341739020842

Page, J. (2002). *Reframing the Early Childhood Curriculum Educational Imperatives for the Future*. Hoboken: Taylor and Francis.

Paige, K., & Lloyd, D. (2016). Use of Future Scenarios as a Pedagogical Approach for Science Teacher Education. *Research in Science Education, 46*(2), 263-285. doi:10.1007/s11165-015-9505-7

Palmer, J. (2014). Past remarkable: Using life stories to trace alternative futures. *Futures, 64*, 29.

Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., & Keltner, D. (2015). Awe, the small self, and prosocial behavior. *Journal of Personality and Social Psychology, 108*(6), 883.

Polesel, J., Rice, S., & Dulfer, N. (2013). The impact of high-stakes testing on curriculum and pedagogy: a teacher perspective from Australia. *Journal of Education Policy, 29*(5), 1-18. doi:10.1080/02680939.2013.865082

Poli, R. (2018). A note on the classification of future-related methods. *European Journal of Futures Research, 6*(1), 1-7. doi:10.1186/s40309-018-0145-9

Ramos, J. M. (2006). Dimensions in the confluence of futures studies and action research. *Futures, 38*(6), 642-655. doi:10.1016/j.futures.2005.10.008

Rege, S. (2010). Education as" Trutiya Ratna": Towards Phule-Ambedkarite Feminist Pedagogical Practice. *Economic and Political Weekly*, 88-98.

Rhee, S., Furlong, M. J., Turner, J. A., & Harari, I. (2001). Integrating strength-based perspectives in psychoeducational evaluations. *The California School Psychologist, 6*(1), 5-17.

Roeser, R. W., Colaianne, B. A., & Greenberg, M. A. (2018). Compassion and Human Development: Current Approaches and Future Directions. *Research in Human Development, 15*(3-4), 238-251. doi:10.1080/15427609.2018.1495002

Roeser, R. W., & Eccles, J. S. (2015). Mindfulness and compassion in human development: introduction to the special section. *Developmental psychology, 51*(1), 1. doi:10.1037/a0038453

Rogers, M. (1998). Student Responses to Learning about the Future. In D. Hicks & R. Slaughter (Eds.), *World Yearbook of Education 1998: Futures Education*. London: Kogan Page.

Rupprecht, S., Koole, W., Chaskalson, M., Tamdjidi, C., & West, M. (2018). Running too far ahead? Towards a broader understanding of mindfulness in organisations. *Current opinion in psychology*.

Sardar, Z. (2010). The Namesake: Futures; futures studies; futurology; futuristic; foresight— What's in a name? *Futures, 42*(3), 177-184.

Saul, P. (2001). This way to the future. *Journal of Futures Studies, 6*(1), 107-120.

Scales, P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of Developmental Assets to the Prediction of Thriving Among Adolescents. *Applied Developmental Science, 4*(1), 27-46. doi:10.1207/S1532480XADS0401_3

Schultz, P. W. (2001). The structure of environmental concern: Concern for self, other people, and the biosphere. *Journal of Environmental Psychology, 21*(4), 327-339.

Schultz, P. W. (2002). Inclusion with nature: The psychology of human-nature relations. In *Psychology of sustainable development* (pp. 61-78): Springer.

Slaughter, R. (2002). From rhetoric to reality: The emergence of futures into the educational mainstream. *Youth futures: Comparative research and transformative visions*, 175-186.

Slaughter, R. (2015). Beyond the Global Emergency: Integral Futures and the Search for Clarity. *World Future Review, 7*(2-3), 239-252. doi:10.1177/1946756715597522

Slaughter, R. (2018). Two fine additions to the futures literature. *Foresight, 20*(4), 443-446. doi:doi:10.1108/FS-08-2018-098

Smith, C. (2010). Education for Sustainability and the Role of Future-Focus Pedagogy. In J. Zajda (Ed.), *Global Pedagogies: Schooling for the Future* (Vol. 12, pp. 145-156). Dordrecht: Springer.

Smith, G. A. (2007). Place-Based Education: Breaking through the Constraining Regularities of Public School. *Environmental Education Research, 13*(2), 189-207. doi:10.1080/13504620701285180

Smith, G. A., & Sobel, D. (2010). *Place- and community-based education in schools*. New York: NY: Routledge

Sobel, D. (2005). *Place-based education: Connecting classrooms and communities* (2nd ed.). Great Barringaton: MA: Orion.

Stewart, C. (2002). Re-Imagining Your Neighborhood: A Model of Futures Education. In J. Gidley & S. Inayatullah (Eds.), *Youth futures: Comparative research and transformative visions*. Westport, Connecticut: Praeger.

Swann, R. (2001). Ecocentrism, leader compassion and community. *Leading and Managing, 7*(2), 163-180.

The Futures Foundation. (2019). Futures Education Rationale Retrieved from http://futuresfoundation.org.au/futures-education-rationale/

The Jane Goodall Institute. (2006, May 25, 2019). About Us. Retrieved from https://www.rootsandshoots.org/aboutus

The Jane Goodall Institute. (2008). About Us: A proven model for engaging youth. Retrieved from http://www.rootsandshoots.org/aboutus/model

The Jane Goodall Institute. (2015). Project of the Month. Retrieved from https://www.rootsandshoots.org/projectofthemonth

The Jane Goodall Institute. (2017a). *2017 Annual Report: Growing Our Reach*. Retrieved from http://www.janegoodall.org/wp-content/uploads/The-Jane-Goodall-Institute-2017-Annual-Report.pdf

The Jane Goodall Institute. (2017b). Roots and Shoots Formula Toolkit. Retrieved from https://www.rootsandshoots.org/sites/default/files/Roots%20%26%20Shoots%20Toolkit%202017%20fm.pdf

The Jane Goodall Institute. (2018a). International Day of Peace. Retrieved from http://www.rootsandshoots.org/peaceday

The Jane Goodall Institute. (2018b). Roots and Shoots. Retrieved from https://www.rootsandshoots.org/

The Jane Goodall Institute. (2019a). Compassionate Leadership. Retrieved from https://www.rootsandshoots.org/compassionateleadership

The Jane Goodall Institute. (2019b). JGI USA Strategy Launch: Interview with ED Carlos Drews [Instagram Post]. Retrieved from https://www.instagram.com/tv/BvM7Y6sAkru/

The Jane Goodall Institute. (2019c, 4th January 2019). Putting Hope on the Map. Retrieved from https://www.janegoodall.org/?portfolio=putting-hope-map

The Jane Goodall Institute. (2019d). Timeline: The Jane Goodall Institute. Retrieved from http://www.janegoodall.org/our-story/timeline/

The Jane Goodall Institute. (n.d). Roots & Shoots FAQs. Retrieved from https://www.rootsandshoots.org/faq

The Jane Goodall Institute. (n.d.). U.S. National Youth Leadership Council Retrieved from https://www.rootsandshoots.org/nylc

The Jane Goodall Institute Australia. (2018). *Achieving Sustainability: Annual Report 2018*. Retrieved from https://www.janegoodall.org.au/about-jgia/

The Jane Goodall Institute Australia. (2019a). About JGIA. Retrieved from https://www.janegoodall.org.au/about-jgia/

The Jane Goodall Institute Australia. (2019b). About Roots and Shoots. Retrieved from https://rootsandshoots.org.au/about-roots-shoots/

The Jane Goodall Institute Australia. (2019c). Jane Goodall's Roots and Shoots. . Retrieved from https://rootsandshoots.org.au/

The Jane Goodall Institute Australia. (2019d). National Youth Leadership Council. Retrieved from https://rootsandshoots.org.au/national-youth-leadership-council/

The Jane Goodall Institute Global. (2018, 30th December 2018). The Jane Goodall Institute Global. Retrieved from https://www.thejanegoodallinstitute.com/

The Jane Goodall Institute New Zealand. (2019). Roots and Shoots. Retrieved from http://www.janegoodall.org.nz/roots-shoots/

The Jane Goodall Institute of Canada. (n.d.). A Starter Toolkit for Educators Retrieved from https://janegoodall.ca/wp-content/uploads/2017/02/Roots-Shoots-Canada-EducatorTool_NEWkit.pdf

The Jane Goodall Institute Tanzania. (2013a). About Us. Retrieved from http://rootsandshootstz.org/about/

The Jane Goodall Institute Tanzania. (2013b). How to Start a Club. Retrieved from http://rootsandshootstz.org/how-to-start-a-club/

The Jane Goodall Institute UK. (2019, May 29). Jane Goodall's Roots and Shoots: Mission Possible in the UK. Retrieved from https://www.rootsnshoots.org.uk/

The Jane Goodall Institute UK. (n.d.). Who are we. Retrieved from https://www.rootsnshoots.org.uk/who-are-we/

The University of Colorado Boulder (Producer). (2017). Compassionate Leadership Through Service Learning with Jane Goodall and Roots & Shoots. [Massive Open Online Course] Retrieved from https://www.coursera.org/learn/compassionate-leadership-jane-goodall?

Urry, J. (2013). *Societies beyond oil : oil dregs and social futures*. New York, NY: Zed Books.

Valsiner, J. e., Lutsenko, A. e., & Antoniouk, A. e. (2018). *Sustainable Futures for Higher Education The Making of Knowledge Makers*: Springer International Publishing : Imprint: Springer.

Wals, A. E. J., Weakland, J., & Blaze Corcoran, P. (2017). Preparing for the Ecocene: Envisioning futures for environmental and sustainability education. *Japanese Journal of Environmental Education, 26*(4), 4_71-76. doi:10.5647/jsoee.26.4_71

Watson, C. (2009). Futures Narratives, Possible Worlds, Big Stories: Causal Layered Analysis and the Problems of Youth. *Sociological Research Online, 14*(5), 1-12. doi:10.5153/sro.1969

Westfall, K. (2014). *Promotion of Environmental Engagement Through Positive Youth Development in Tanzania.* (Honors Thesis), University of Mississippi, USA.

Wilber, K. (2000). *A Theory of Everything*. Boulder: Shambhala.

Zarrett, N., & Lerner, R. M. (2008). Ways to promote the positive development of children and youth. *Child Trends, 11*(1), 1-5.

Zeldin, S., & Tarlov, S. (1997). Service learning as a vehicle for youth development. In J. Schine (Ed.), *Service learning: Ninety-sixth yearbook of the national society for the study of education* (pp. 173–185). Chicago, IL: The University of Chicago Press.